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EDITOR'S NOTICE.

It has been justly remarked, that, if any thing, at any time, can be devised for the improvement of the national mind and manners, any thing to augment the comforts, the conveniences, and even the embellishments of life, it argues a deficiency of spirit to be deterred from immediately attempting it, through the fear of failure. The present times are to us who live in them, of infinitely more consequence than the past or the future, and no effort should be spared to adorn and improve them to the utmost limit. For future times, indeed, we provide most effectually, by advancing the present to the highest degree of attainable perfection. To sit down with tranquil indolence, in an unimproved state of things, when a little exertion would certainly ameliorate them, and great efforts entirely reform them, is a dastardly dereliction of our own duty, our own interest, our own happiness, and the regard due to posterity.

Entertaining such principles, and with the firm conviction, that the times require united action, on what may be deemed the basis of individual and national happiness and prosperity, we venture to add another to the numerous existing periodicals. If number, without relation to matter, would answer

the legitimate end of the press, there would be no necessity for an additional one. But number is not always an index of strength or truth. Independently of the gossamer matter which fills by far the greater number of periodicals, calculated exclusively for minds of airy stamp, there are few devoted to the advance of sound science and literature, and more especially to the interest of broad and radical education.

We believe it is a general remark, that the present state of our literature is unhealthy, and that mental action as well as moral perception, receiving their bent from daily publications, feel seriously their effects. It cannot be denied, that strong and vigorous thought gives way to a morbid appetite for the most extravagant pictures of a wild or corrupted imagination. The press and the public thus exert a reciprocal action. Public mind craves, and authors give them, and the press is let down from its true dignity to pander to perverted desires.---Nor, is it simply the matter which deserves reprehension; for, out of these ideal delineations, in which the sensual feelings are indulged, even to satiety, a loose and gorgeous style is springing up directly at war with all precise knowledge. Mode of expression is assuming an ascendancy over matter and thought. It is characteristic of declining taste. Lord Bacon remarks of the age in which he lived, "that men hunted more after words than matter; and more after the choiceness of phrase, the round and clean composition of a sentence; the sweet falling of the clauses and the varying and illustration of their works with tropes and figures, than after the weight of matter, worth of subject, soundness of argument, life of invention, or depth of judgment." When such is the nature of compositions, what must result? The very food taken in by the mind is unhealthy. The head and the heart become vitiated, like the fluids of the human system, when it becomes disorganized by over excesses in eating or drinking. Pampered with such materials, intellect loses all relish for nature and fact; all high literary and scientific excellence is unnoticed, and grave trifling, or imaginary delineations, and gross pictures of man's nature, take the place of every thing generous and noble, and

the mind, overpowered by the very aliment it receives, falls back upon itself, weakened and corrupted.

These, we conceive to be the general effects of the majority of the books and periodicals of the day. And it becomes matter of high moment, whether those who assume to instruct through the press, ought not to take a stand on this ground, and endeavor to bring back to healthy action, intellectual and moral taste. And more especially, ought not those who have the control of education, to collect their strength upon a point of such deep interest, and oppose the influence of the mighty mass of corruption and trifling which flood the land? We conceive, that the task belongs pre-eminently to them, because in the sound discipline of the intellectual and moral perceptions of the young, is to be found the most powerful remedy for counteracting the baneful effects arising from injudicious productions and example.

> Can such things be,
> And overcome us like a summer cloud,
> Without our special wonder?

A diseased community can never be restored to a sound condition, until a *vigorous* and *manly* course of education be called into existence; by which the mind will be early habituated to something solid for the employment of its energies; which will inspire in youth the spirit, the elevation of sentiment and the rational love of liberty which exalted the polished ancients to every thing great, and which have ever been exhibited by the illustrious and good.

It is an admitted maxim, that a sound education, both intellectual and moral, is the best safeguard of a republican government. From the nature of such an institution, the people are the depository of power, and this power must be true to its trust. Knowledge, sound and radical, is that power;—not of the *head* or *heart*, separately—but conjointly. And this kind of knowledge becomes among us daily the more necessary, inasmuch as there is a mighty increase of popular strength without commensurate directing intelligence and controlling virtue. And this power, if not concentrated to its own welfare, must, when brought into action, sweep over the land with ir-

resistible destruction. Nor can mere mental cultivation, when the elements of purity themselves are undermined, stay the heartlessness of vice in its course. There can be no barrier so strong in protecting life, liberty and happiness, as manly education, stamped upon the mind and heart of a people.

A prominent object, then, of this work, is to support broad, radical and liberal instruction. The fact cannot be denied, that in the face of all the fancied improvements of the age, genuine education is not yet placed on substantial ground. We deem it high time that public action be brought to bear on this subject; and that the dull dignity and useless forms that pass for solid matter should give place to realities.

In these remarks, however, it is not to be understood, that we wish to impose upon individuals the *shackles* of any particular mode. Nothing can be further from our views. As the intolerance of sect has been the foe of religion, so the bigotry of system would prove the bane of education.

Prominent as the subject of education is considered, the work, however will not be exclusively devoted to its cause. It will embrace the departments of general literature and physical science. The latter, especially, it is thought, should claim considerable attention, as the work is intended not only to carry information on all scholastic and scientific subjects into the possession of those who teach, but to diffuse among the people, matter calculated to direct the mind from ephemeral productions to those which are solid, and conducive to rational satisfaction and public utility.

Aiming at a high and liberal character, this work disclaims all intention of entering, in any form, upon political, sectional, or sectarian controversy, but, at the same time that it makes this disclaimer, it will be the zealous and fearless advocate of the principles of Christianity and sound morality.

In conclusion, then, it will be seen, that the objects are, to aid in giving tone and character to public mind; to create a taste for scientific attainments; to build up a strong rampart about our country, by the introduction of a manly and vigorous education diffused among the people, that, thus they may know how to estimate rational liberty, as well as to preserve it.

NECESSITY OF DISCIPLINE.

BY THE EDITOR.

Nec domus nec respublica stare potest, si in ea nec recte factis præmia extent ulla, nec supplicia peccatis. CICERO.

Neither can a private family nor a state subsist, if no rewards are held out in it for good conduct, nor penalties for offences.

It is remarked by Knox, "that whoever has had experience among young people, will have seen, how early, and with what violence, the propensities of human nature display themselves. To eradicate them is difficult, and perhaps impossible. But they may be restrained and weakened so as to be rendered less dangerous to future felicity" by judicious discipline in families and in places of learning. If it be neglected under the parental roof, which is of very common occurrence, the task of reformation, both of mind and morals, devolves measurably on those who conduct academical establishments.

In the present state of society, this imposed duty on instructors is often both painful and laborious; but as painful as the task is to the liberally educated mind, of contending against the immoralities and vicious dispositions of young people,—those who are firm to the purposes of their trust, will proceed fearlessly to discharge the duty which is required of them by God and their country. The office of teacher, is at the best, laborious indeed; because, as in society at large, it becomes necessary, that restraints which are at all times irksome to the unsubjected mind, be laid and enforced; and thus the instructor is continually brought into contact with the obstinacy and ill temper of those whose judgments are weak, and whose passions incline them to vice. But in schools, in families and in communities, there must be a counter agent to self-will and gratification; and when restraint becomes necessary, nothing should prevent its operation. We are as strong advocates for rational freedom and lenity as any men, but, we believe unbounded liberty and uncontrolled will are fatal in their effects on the morals and happiness either of individuals or nations. They are, in reality, the desolating simoom. The mad liberty of the French revolution, first destroyed the principles of the nation by successful attacks on every thing good and sacred; turned France into one vast charnel house, and at last created for itself, a most arbitrary ruler, by its own weakness and pollutions. It is in consequence of the abuse of freedom, and the consequent hostility to all law and good government, that nations go on to self-destruction; and in the same manner, human beings, when under the influence of un-

restrained control, raise up for themselves, the greatest and most cruel despots, in the sway of their own passions and vices.

If history, the record of man as he is under different modes of education, religion and government, proves the fact, that nations rise by their own virtues, and fall by their own vices; the condition of society around us equally proves, that unless youth are well taught, and their affections are well disciplined, they have more to fear from the violence of their own passions than the oppressions under any form of government. Individual happiness lies within the mind that knows itself; that has been trained in the way that wisdom and religion point out. Restrictions, and sometimes severe ones, are necessary from the very nature of man. If he were perfect, none would be requisite, and human laws would be useless. But experience shows what man is from his cradle to his grave. Complaints against restrictions, then, either by children, or, those who are little wiser than children, will weigh nothing with those who know the true dignity and greatness to which we may arrive, when the mind and the affections are moulded by judicious discipline and manly learning.

Every institution around us denotes the imperfection of man. We look, therefore, for imperfection in all that relates to the work of his hands. But that is no reason that neglect or ignorance should extenuate his conduct, when the power is within himself, of preventing in some degree, the vices and follies of himself and those around him. The world is before him; and the exercise of his reasoning powers would show him what ought to be done in the management of the young. Their minds will soon become expanded; their habits fixed, and manhood will exhibit those minds engaged in lofty efforts of moral and intellectual greatness; or in the most degrading scenes of shame and depravity.

But, it is not a momentary attention, or a mere resolution to do what is right in this matter, or the extremes of lenity or severity that can make youth better and wiser. They demand from the hour of their birth, a steady, firm and judicious course. They require constantly a father's and a mother's care; the care of such a father and mother as govern their own conduct by the stern principles of religion, morality and a well cultivated mind; who teach their offspring by practice as well as precept to do what is just; who temper their counsels with wisdom, and their punishments with discretion; who consider that the souls and minds of their children demand from them more time and more care, than are required to dress for a party, or to make a speculation in houses and lots, or horses and sheep. Precept, alone, in the formation of the young

heart has but little more connection with it, than night dreams have with the realities of life; or an abstract theory of morals with the actions of men as they are. If we wish practical morals, they must be practically taught, when the objects of instruction are young. What, in truth, matters it to the interests or happiness of either individuals or society, what subtle or casuistical distinctions men may be able to make by mere argument or disposition of words, when acts themselves are base and detestable; when the minds that theorise plausibly and acutely are poisoned themselves, and their sensibilities are blunted by vicious excesses! When the fountain is impure who shall see a chrystal stream rising from it? Mere theory or mere talk may serve to pass time, or to show acuteness in castle building; but, common sense places practice, steady practice, of moral precepts in youth, as the basis of the future man and good citizen. If the former, either in morals or in science holds forth things to be most excellent and true, the latter as often shows their impracticability and absurdity.

Upon the subject of education, and the manner in which it ought to be conducted *in all its bearings*, a thousand theories have been formed; but, those only have stood the test of time and experience, which have been written with reference to *human nature as it shows itself in action*, and the real condition of man. The Utopian idea, that man can be governed by *reason alone*, has withered before every-day facts. Those who admire the beauty of such a speculative system, find that they are compelled to counteract the waywardness of their children by something more than mere reason and volition; and while they are lauding the force of reason as a sufficient restraint upon vice, their lives and property are only kept from the hands of the assassin and the robber by the fear of the gallows and the prison. Human nature is too weak, when it has not been properly managed in infancy, to bear up against its own passions and their criminal indulgence. Platonic notions, and the wild dreams of Godwin, have had their day. The condition of the civil compact disclaims the idea of insubordination, and proves that men left to *reason alone*, do not always perform what is right and just.

If much has been said on the subject with regard to families, no less has been written whether a rigid discipline ought or ought not to prevail in academical institutions. By rigid discipline, we do *not* mean the exercise of merciless power; but, we mean a strict subordination to prescribed rules and duties; a discipline founded on justice, common sense and experience, and tending to the permanent benefit of individuals. No one of reflection will deny its necessity, if the question be considered, independently of all moral ends, in reference to mere

literary advancement. The spirit of the remark holds just, whether we apply it to academies or to society. It is acknowledged on all sides, that freedom from all restraint, or, a frequent infringement of law with impunity, would turn the community into confusion, and break down all rational liberty by its abuse. So would it be in schools and colleges, if the trifling or vicious were allowed to trample upon their laws and regulations. The contagion of vice and bad example, is soon diffused, and the good, if caution is not exercised, are soon corrupted. It is in schools as in the community—one debauchee will make many. If youth can be trained, as it were, to vice, can they not be trained to virtue? Is it not then better, both at home and at school to subject the will of the young, and check, as much as possible, all untoward passion and immorality in the bud? And where can this be so well done, as under the care of judicious parents and instructors. Or, is it better to let youth, without an attempt at correction, ripen into that state of frowardness and vice in which nothing human can control them? We have all often seen the fatal consequences resulting from such a course. The uncontrolled propensities of the young; the fear of inflicting punishment, when required, lest it should destroy the manly spirit of youth, have tended to people places of infamy with wretches whom the world pretends to commiserate, while it heartily condemns; whom all unite to brand with indelible disgrace; when that disgrace, in general, has been brought upon them by parental folly, or wrong notions in regard to the proper management of their passions and intellectual habits.

When we reflect on the necessity of correcting the affections of youth; of eradicating immoral habits; of confirming them in a uniform integrity of conduct, it surely is mere folly to oppose one of the means by which it sometimes, becomes necessary to accomplish these objects. Punishment, indeed, may often be prevented by consistent parents; but, when it is demanded, nothing should prevent its execution. It is the solemn duty of parents and instructors to enforce the observance of proper regulations, when appeals to reason or feeling are vain. It is an error, to suppose that the young will voluntarily and intuitively adopt the right course of conduct. And, let it be remembered, that in general, children who have not been brought up properly at *home*, give *trouble*, and require punishment in places of learning; and that they who would have their offspring, under academical care, receive the advantages of science, should see that they sow under their own roof, the seeds of goodness, industry, and good manners, and co-operate with instructors in their confirmation and growth.

In every school, in which there are children of various

dispositions and habits, there must be some who are corrupt. Is punishment with such to be used, or not? Is it necessary to chide such youth occasionally, or "coax them a little," or, punish till submission to parental, or, preceptorial authority is the result? Let sensible people answer. The contagion of vicious example requires energy to check it. Good children will be affected by the conduct of their associates, and one instance in which a depraved and ungovernable scholar should be triumphant, would stimulate many to set at defiance, in a short time, the regulations of the best organized institution. If discipline and subordination are necessary in armies, or, laws in the social compact, to restrain licentious men from the commission of depredation and outrage, they are no less requisite to the stability of a school or college, and every violation of which with impunity, destroys the very purpose for which laws were enacted, and academical institutions established.

If all children were good, there would exist no necessity for correction or reproof. But such is not the case. There are those who deserve severity of treatment, and upon such habitual depravity has set its seal. Such, indeed, are too many youth. Shall not those who look to the welfare of society oppose vice? Is it to be supposed, that children's *reason* is of greater force than their self-wills, or, that it is strong enough to stand as a barrier to their criminal acts, and stay them in their course, and fix them in the career of moral duty? No one, who is conversant with human nature, will hold forth such a plea. And, yet there are individuals who believe in what may be termed "the volitive and social system," who would take this position. "Shame them out of their vices and bad habits," they say "set them up in school or in your *house*, as a mark of your displeasure and their disgrace, and frown at them." Such reasoning displays a narrow acquaintance with the human heart. What! shame youth, or men, sunk in corruption! You might as well attempt to shame such into the right course of conduct, as to prolong life by medical drugs to a thousand years. We believe, that every person who has spent much time in the company of youth, knows there are individuals so hardened by habitual vice, that they can bear every disgrace with alacrity, and glory in their shame. With such, must nothing be done? Must not means, and severe ones too, be used in order to reform them, or must they, at once, be cast into the world, to be contaminated still more by the old and expert in villainy, and by every thing that can debase man? We say, if parents neglect their duty, it is no reason instructers should.

Parental and preceptorial vigilance and care, in the language of an eloquent writer, form useful members of society.

We have no right to flatter ourselves, that disorderly, disobedient and untutored children will become good citizens. To a criminal inattention in these particulars, may be ascribed in a great measure, that trifling character and vicious conduct that mark the fopling and the rake, and of which the pious and observing so justly complain. Vain are the wisest laws without *virtuous* habits, and these habits must be formed in early life. Where the reverse obtains, the energy of the laws must be necessarily weakened, and the arm of justice unnerved. But although the fear of public ignominy should, in most cases, restrain from the commission of enormous outrages, it would be but a slender proof of social probity, that the terrors of penal statutes are barely sufficient to keep men from the prison or the scaffold.

Subordination and improvement in academical places, and the welfare and harmony of the community, have been materially injured by the propagation of the doctrine, "that children should never be compelled to do any thing contrary to their wishes and inclinations; that the corrupt should never be punished for the commission of wrong, but, that appeals should be made to their reason, and so often repeated, as to produce in their minds, the light of intellectual and moral truth." This may, indeed, all be true, if speculation is taken for fact or truth; but, those who have formed such notions have never looked out upon the world with the eye that sees the difference between *things as they ought to be, and things as they actually are.* The doctrine, however flattering to those who set reason up as a guide, is utterly baseless. But, as unsubstantial as it is, it has had its advocates and its hour; and its effects may be seen in its injurious operation in society and the condition of many of our literary institutions. But so far, at least, as places of learning are concerned, the people are becoming awake to the delusion, and begin to demand in energetic language, men to conduct them who are independent in action, and firm in the discharge of their duties. It is to be hoped, too, while this healthy spirit is at work, that parents themselves will not neglect to perform their part. It is not surprising, that, there should be a reaction upon the doctrine of non-restraint. There was rather too much of Godwin, and Rosseau and Owen in it, to last long. The time, we trust, is fast going by; but, the day was, when those who conscientiously discharged their duty in checking the levities, or restraining the pernicious vices, or, evil habits of their scholars, became the subject of "tea-table eloquence," and every gossip and silly prater had something to say about them. If folly did not abuse them; personal animosities played their part. But why need teachers who do their duty, care for the shafts

of undeserved abuse, or the efforts of short sighted malice, which "like vaulting ambition overleaps its mark," when they know, they are doing what God and their country demand from their official station.

EXTRACT FROM A LECTURE ON THE STUDY OF CHARACTER

BY ALEXANDER KINMONT.

The introductory portion of this lecture, I omit as containing the *metaphysics* and philosophy of the subject, which I am afraid would be but dull reading. The following parts are more *practical*: I have no time to reduce the remarks into the form of an essay: I am convinced, however, the subject is an important one to teachers: I shall be contented to have rudely broken up the *fallow ground:* I hope the field will be often ploughed. The *lecture* was written several years ago: the sentiments may require some modifications: the reader can make them.

NO. I.

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But you say what has all this to do with schools? Much every way. The whole world is a school, and all teachers and learners—in turn, or both at once;—the period of our term at this school, that of natural life. I wish merely from noticing those errors, in the management of the grand school of society to guard against similar ones in our mimic schools—Ludi, as the Romans very significantly called them—plays—representations of the various business and concerns of human life. Now, if in the grand school of society, we see men constantly aiming to make their own standards of universal imitation, and if we find the results to be detrimental in a high degree, producing dull monotony in society, depriving it of the zest of natural and cheerful varieties, and modeling every face and mind after one tiresome insipid pattern, begetting a bigoted attachment to that pattern, and a rooted aversion to all others;—if the masters of the world's grand school, play such fantastic tricks before high Heaven, yet let not us, an obscure race of schoolmasters, who enjoy little other gratification in life, than the pleasure of being beloved by a few children, and rendering them happy—let us not imitate these gigantic leaders of mankind—let us not seek the silly gratification of seeing our *own image* impressed on the tender and yielding minds around us,

but rather let us examine what is the outline of the image already impressed there, and let us bring out that,—let it be produced in all its native contour and colouring—and let it be adorned and set off, not with foreign or exclusive ornaments, but with those universal graces and gifts which are the benefits of science, of literature, of morality. Thus, gentlemen, the likeness of the Creator will gradually rise up, in interesting relief, in that *new mind;*—and he will have a character of his own, not yours or mine, and he will be a new mirror on earth to reflect on the delighted eyes of mortals, some of the hitherto unrevealed glories of the Eternal. What is the reason, gentlemen, that real genius is so rare? What, but this intermeddling of ours with the fair handiwork of the Creator! We are ever for doing to the minds of children, what certain savages do to their heads—pressing them into some favorite shape, and making *one* the pattern according to which all others shall be moulded.

But, perhaps, I do not descend sufficiently into particulars. To illustrate then:—Suppose a teacher to be naturally of a warm and eager temper, impatient of counsel, but indefatigable in working, who delights to begin rather in the middle of a thing than at the beginning, and on Saturday, rather than on Monday; who is all hurry and execution but no deliberation, no plan—in fact one, who belongs to that natural and extensive *brotherhood* of men, who are made for action rather than deliberation, and who no sooner hear of a new enterprise than they burn to be in the midst of it—have already anticipated it in their dreams, and are as eager to be engaged in it, as a hound in the chase:—imagine, I say, a teacher of this character; it is not an uncommon one, and far from useless—shall such teacher try to make all his boys like himself?—Quid aliud esset quam pugnare adversus naturam? If he does, he will run against several *natural* varieties of youths, on whom his own impetuosity will work no salutary effects;—he may start them, and get them on a little way at his own hurried and impatient pace;—at last, however, they will show themselves refractory,—begin to kick—become obstinate and mulish, and positively, to the extreme mortification of our eager schoolmaster, refuse to stir. They are not going to be driven at this rate;—they have no inclination to this kind of sport; they cannot think themselves made for it, and in truth they are not made for it; their nature disposes them otherwise; at least to go at a slower pace. Here our honest teacher is in a dilemma;—what shall he do with such incorrigible youths? He pronounces them good for nothing; such I know will be his first sentiment; unless he has learned to philosophise and to judge wisely on human nature. If he has, he will have un-

derstood his own character, and have perceived in the first place the *natural* class to which it belongs; in the second place, he will have classified the characters of his pupils. And knowing these, he will endeavor, as little as possible, to run counter to them. For example, in the case I have cited, he will perceive that a boy of this description does not belong to the same *natural* class as himself, eager, and made for rapid action, but to that quiet and deliberate *genus* of character, that win their way by yielding to the tide, or dexterously avoiding it and keeping in the eddying water along the banks. This class think a great deal before they move a step. They are no way excited by the boundless prospect of enterprise before them. They stare at you with open mouth and eyes and unmoved muscles, when you talk of it. The very magnificence of the road that lies before them, rather overwhelms than arouses them. They do not know what *plan* can be devised to accomplish such objects, and without a plan, they will not work—not a stroke. They have also a strong desire to know what good is to come of all this, what *use* it is; and as these sagacious youngsters have imbibed the same idea of *use*, which their elders have, to wit, that it means *money*, our enthusiastic teacher finds some difficulty in making them comprehend what *use* they really will derive from all that labor, and study which he so earnestly urges upon them. In consequence of all these damping considerations, our teacher finds it rather hard to regard these little fellows as human beings at all. Conceiving the very *material* of humanity itself to be made up of that eagerness, vivacity and deep feeling, with which his own mind is replete he can scarcely think of any thing different from this as belonging to it; till philosophy has opened his eyes and he sees in this description of youths the germs of that prudence which, when matured and enlightened, often proves of incalculable benefit to human society. He sees that human life would be kept in a state of constant fever, but for the existence of such cool characters; and, that destitute of plan, end, or reasonable prospect of advantage, the whole of society would exhibit nothing but an endless series of acts, frantic, wild and unprofitable. Convinced of this, our teacher now become a philosopher, will set about earnestly instructing minds of *that stamp* I have alluded to, and so far from wishing to obliterate it, or press a new seal upon it, he will endeavour to render its own designation and natural tendency brighter and brighter, stronger and stronger. In this way also he will discover new qualities of goodness or greatness in this class of youths, which his own individual character and partialities prevented his taking notice of before. Thus the teacher will also enlarge his own mind, while he endeavors to draw forth the appropriate qualities of others.

I have taken the example of a fervent and eager teacher, and shown the error into which he is likely to fall from want of an enlightened knowledge of character. We might suppose a teacher of a different nature, one of the calm, patient and cool kind, mightily given to *planning*, and concocting *systems* of teaching, strangely enamoured of method, and order, and arrangement. He cannot go forward till he has first cleared the way, removed every impediment, every *straw*, on his destined hyppodrome of intellectual exertion. And then he begins to advance; but if he should chance to stumble in the outset, he will turn back, and—very deliberately begin again. He is a prudent man—perhaps I charicature his disposition—I do not mean to do so,—for he is a useful man, and valuable in society; and a capital teacher too. But unless he understands his own character, and knows himself, and sees the characters of others, he will be liable to make egregious mistakes in teaching. His method, however, without correction from philosophy, will suit a great many youths admirably well, those who approximate to his own genius: but the fiery and impatient will droop and die under his discipline; they will moan and bewail themselves like venatic hounds shut up in their kennels, which long for the free and unbounded forests, and their noble game once more. But if this same prudent and pains-taking teacher I have spoken of, knows himself, reflects as a philosopher, he will see a class of characters different from his own, and will accommodate and bend his system to them. For example: in teaching Geometry to such youths, he will not keep them a month or two defining triangles, circles and so forth, and endeavoring to make them understand the very learned definition of a point, to wit, that it is that which has position but not magnitude—a vile conceit, by the bye:—but yet there are some minds that could be very much amused and perhaps edified by this mysterious speculation, but not the class of youths I have in my eye; they spurn and despise all such subtleties and leave them to the *natural brotherhood* of the cool and deliberate; they are eager to seize at once the very body of Geometry whatever that may be, and to let the phantoms of it in the mean time pass,—those ghosts of departed points and departed quantities; them their genius *in medias rapit res*—hurries them on to the very citadel of science itself, that having taken it, they may occupy the suburbs afterwards. I say, then, that the supposed cool and prudent teacher I have spoken of, seeing the characters of such youths, allows them to press on with unchecked ardour to the prize of the high calling of genius. They are resolute and they proceed; and their true character is thereby developed; and they shine forth in the strong and brilliant light of their own minds. Their

great fault is, that they are generally destitute of accuracy; but this is almost inseparable from their nature, in its first race. They want to see the whole domain of science and literature before them:—they cannot therefore consent to be weeding flowers eternally in that obscure valley *there* beneath,—no—however sweet those flowers may be, or however brilliant;—they wish to climb the hill, though the weeds in the mean time should grow apace. They leave behind them good land uncultivated, unplanted and untended; but they must, they must have a prospect of the whole;—they must delight their eyes with the occasional view of the vast, and wide-spreading domains of human knowledge; and you must yield so far to their inclination or you damp their ardor; and, by a constant demand of *accuracy, accuracy,* you do not render them much more accurate (for they are by nature unfitted for minute accuracy) and you confine, crib and manacle, that restless wandering of a vigorous mind, that is destined like the eagle, to bring its quarry from afar, and to explore those tracts where human footsteps have never, or seldom been.

Gentlemen, a cool and prudent teacher, unless he is a wise and good man, is very apt to stunt the growth of such a mind as this; which is not very easily confined within the pedantic shackles of scholastic rules. But as I have just now said, if a Teacher is a philosopher, whatever be the temper of his own genius he attends to all this, and fosters with due care, every variety of mind; that youth may start on the career of manhood, with the same forms of character, the same fashions and contours of mental organization, with which they first were ushered by their Maker unto life. God forbid that I should turn from its noble and useful end, the tendency of a single mind: nay, the creations of God are good; and woe be to the man who obscures or disfigures them; and confounded be those rules of social life, which require of every one so tyranically and imperiously to fashion his gestures, his looks, his speech, his tones of voice even, the native music of his simple soul, into which all the heart is poured—which require of a man to give up all this, the very insignia of the office allotted him by his Maker, to the wish and rule and sway of some predominating variety and cast of character, which may not have been originally bad or wrong, but which becomes both, when it thus requires all other varieties to be sacrificed to it. This is too much the case in the grand school of society:—Why, gentlemen, the tyranny which it exercises, is more insufferable than was ever that of any schoolmaster whatever, for even if he should be for impressing his own exclusive bent on his school, still his *subjects* have the refuge of flight left them; but where shall a man fly from this all surrounding atmosphere of

public affectation? It meets him every where, and even when he attempts to avoid it, he becomes ridiculous by half falling in with it: a man dare hardly lift his arm to his head without the danger of violating some prescribed rule or form, running in the face of these sanctities of artifical behaviour. Gentlemen, there is no tyranny so oppressive as that of a fantastic public opinion. I am aware indeed, that public opinion is a most excellent check on bad men, who are more curbed by it than by the restraints of conscience, but still so far as it goes to crush these *native* characters of men, (and it does crush the essence of the character itself when it thus circumscribes the expression of it in the spontaneous forms of modes, gestures, acts) —when it does, it exercises a most unwholesome restraint,—it attempts to bind what God Almighty intended to be free, and to set artificial limits to the lovely play of genius and of fancy. And let us not think that a republican government secures us against this war on nature. The tyranny does not come down upon us from the government, but from the embattled consent of public prejudices. It is an affair of voluntary compact. We have tacitly agreed to admit only one certain routine of thinking, acting, feeling, behaving. We select one special variety of human character, and bid this be the model for all the rest to take their pattern from. I know I am speaking against a state of things, which as yet exists in a very limited degree among us; but all must be aware that the current is setting in that way, and that we are passing from the untrammelled freedom of the forest—a state so congenial to the growth of diversified genius—to those absurd and frivolous decorums of artificial life. But, gentlemen, if such things are done in the *dry* tree, let them not be done in the *green:* we have no control over the old stumps, and they must take what fantastic shapes they please. But under our eyes, gentlemen, grow the saplings of the republic, and let them grow, and may God Almighty bless them. I *would* say, may they put on that good and natural bearing, for which God designs them; may they be defended from the evils and errors of their nature; but may they never consent to drop their own nature, to take on that of another; for, this is more contrary to moral and individual republicanism than the worst law ever yet propounded could be to civil republicanism. "Admodum autem tenenda," says Cicero: and I wonder, so admirable is the sentiment, that the passage has not been quoted a thousand times, for certainly it is a great deal more valuable than the common coin of this sort which is passing. "Admodum autem tenenda sunt sua cuique, non vitiosa, sed tamen propria, quo facilius decorum illud, quod quærimus, retineatur. Sic enim est faciendum, ut contra universa naturam nihil contendamus; ea tamen conservata, propriam naturam sequamur: ut, etiam

si sint alia graviora atque meliora, tamen nos studia nostra naturæ regula metiamur, neque enim attinet repugnare naturæ, nec quidquam sequi, quod assequi nequeas. Ex quo magis emergit, quale sit decorum illud, ideo, quia nihil decet invita (ut aiunt) Minerva, id est, adversante et repugnante natura."

I shall translate it. "Every individual ought to retain very strongly, that which is peculiar to him, and his own; I do not mean his faults, but the appropriate qualities of his nature, in order that he may the better exhibit that gracefulness of mind of which I speak. A man must so demean himself, that he act nothing against the universal laws of human nature, but with a proper regard to these, he should at the same time follow the unbidden leadings of his own character; so that if he should even behold gifts and endowments of far more dignity and worth in others than in himself, nevertheless let him regulate his own pursuits by the measure of his own nature. For it is of no benefit to fight against nature, and to follow that which we can never reach. "Hence" he adds, "we can the better comprehend what grace is" (he is speaking on that subject) "for nothing can be graceful, which is done without the consent of Minerva, that is in opposition or in contradiction to the laws of nature."

The justness of this sentiment of Cicero is unquestionable. It is only to be regretted that although written nineteen centuries since, it should be so little thought of, or that we should be willing to have those shackles imposed upon us by custom, which are so repugnant to all free expression of our characters; for, observe, gentlemen, when the character is not free to express itself, it is not free to grow; and why should not every character be free to express itself, I mean, to expand itself, to set itself publicly forth without ridicule, when it in no respect violates the universal decorum of human nature:—I say the character cannot grow without expression, no more than a tree can in winter; vitality is within the tree all the time, but there is no budding, no expansion on account of the *cold;* and neither in this chilling atmosphere of artificial manners can any genuine and true character be at freedom to develope itself fully. But it shall not be so during the period of boyhood, at least, gentlemen, if we schoolmasters can prevent it:—they shall be free to grow and expand into every variety of good, and be restrained only from luxurating into evil. This, gentlemen, is our province: the golden age of the human race is now no where to be found but in schools; here only reign the ancient saturnalia: here at least the growth should be unbidden and spontaneous: here every plant in the garden of God should be permitted to grow as it is most minded; it is our duty merely to keep it from weeds. All soon enough, all too soon will

the artificial bent be given to the mental ramifications of these interesting boys: their blossoms and flowers will be steeped in other fragrance than their own; and their foliage will exhibit other colors than those which are natural to them, and now become them so well. The stale odors of artificial life will breathe from around them, and they will have put on the vulgar tints and dyes of artificial society. Gentlemen, I believe I am stating matters of known facts. We never properly are ourselves in this age of the world, but when children. It was different among the Greeks and Romans, and hence, by the by, the infantile charms of their literature. But we—it is different with us—we are put in strait waistcoats and stays, almost as soon as we enter our *teens*, and we never get out of them till we reach our *dotage*; then mankind consent that we shall be children again. In fact, old men and children are almost the only persons that enjoy real moral liberty in the present age. But perhaps I run on too far. We are obliged sometimes to express ourselves in strong language in order to be clearly understood. Let that be my excuse, if the statements appear too prominent. I am anxious only it should be seen how important it is to study character in the affairs of education. We do it unconsciously. But after we have seen the characters, I mean the *natural* characters, it is important, not only to see them, but to preserve them. They are goods of a particular kind committed to our care, and it behooves us not to mix them or confound them. There is a curious law in the Mosaic code, which forbids the Israelites to sow their ground with divers seeds; a second which forbids them to plough with an ox and an ass together, and a third which forbids a man wearing a woman's apparel. These are divine *enigmata*, but the teacher feels their *sacred* import; and will be careful never to violate the *spirit* of these injunctions.

PHILOLOGICAL GLEANINGS.

BY ALBERT PICKET, SEN'R.

NO. 1.

As the word, Grammar, though introduced into English from the French, is derived from the Greek verb, *Grapho*, I write; so the word language, which comes immediately to us from the French word, *language*, originates in the Latin *lingua*, the *tongue*, and, therefore, anciently signified only the use of the tongue in speech. A just analogy, however, has extended its meaning to all intentional modes of communicat-

ing the movements of the mind: thus, we use the expressions "articulate language," "written language," "the language of gesture," &c.; and this analogy suggests some considerations, which will be found important in developing the first principles of grammatical science.*

Man is formed as well internally, as externally, for the communication of thoughts and feelings. He is urged to it by the necessity of receiving, and by the desire of imparting, whatever is useful or pleasant. His wants and wishes cannot be satisfied by individual power: his joys and sorrows cannot be limited to individual sensation. The fountains of his wisdom and of his love spontaneously flow not only to fertilize the neighboring soil, but to augment the distant ocean.

But the mind of man which is within him, can only be communicated by objects which are without, by gestures, sounds, characters more or less expressive, and permanent, instruments not merely useful for this particular purpose, but many times, pleasing in themselves, or rendered so, by the long continued operation of habit. These, reason adopts, she combines, she arranges; and the result is a language.

Speech, or the language of articulate sounds, is the most wonderful, the most delightful of the arts, thus taught by nature and reason. It is also the most perfect. It enables us, as it were, to express things beyond the reach of expression, the infinite range of being, the exquisite firmness of emotion, the intricate subtleties of thought. Of such effect are those shadows of the soul, those living sounds, which we call *words!* Compared with them, how poor are all other monuments of human power, or perseverance, or skill, or genius! They render the mere clown, an artist; nations immortal, orators, poets, philosophers, divine!

The dialects or systems of speech, adopted by various races of men, in different ages and countries, have been, in many respects, strikingly distinguishable. We may remark the copious Arabic, the high sounding Spanish, the broad Dutch, the voluble French, the soft Italian: we may trace minute gradations from the monosyllables of the Chinese, to the long paragraph words of the Sanscrit; or we may rise, still more

* I wish it to be understood, that, in these numbers, I do not claim originality. My great aim is to collect and condense much that is valuable, which has already appeared. The labor of this, however, is equal to that required to the production of original articles. I am desirous to bring the views of the most philosophic writers on language before your readers, and to aid in diffusing a correct mode of studying it, as a science. These views will be found equally as hostile to the *novel* systems of grammar of the day, as they are to the daring innovations which are made by those who claim, without sufficient ground, to remodel the English language.

gradually, in the scale of expression, from the barbarous mutterings of a poor Esquimaux in his solitary canoe, to the thunders of Athenian eloquence, and those delightful strains of Shakespeare and Irving, which are "musical as Apollo's lute, and a perpetual feast of nectar'd sweets."

Nor is this all: a thousand collateral circumstances tend still further to diversify the numerous spoken languages of the world. Not only does time produce gradual progress, or sudden change in their forms; but their effect is endlessly modified by combination with other arts of expression, with looks, and actions, with sights and sounds.

In this labyrinth of interesting observations, what objects have we to pursue, what clue to guide us? Shall we be content to learn the mere sound, and to burden the memory without exercising the understanding? Or, if we would rise above this, to a knowledge of the construction, must we draw our general from the minute comparison of those numberless particulars, which the longest life would be too short even to contemplate, and which the united wisdom of ages has never attempted to arrange.

The very statement of these questions is a sufficient solution of them. They indicate, at once, the necessity of assuming some comprehensive principles as the rule and basis of our further inquiries. These first elements of our reasoning, must afterwards be followed out into all their concrete forms. The history of language must verify the science; but the science must precede: for such, in the order of nature, is the course of all our knowledge. General notions, vague and indistinct, come first; they form, as it were, the channels into which our daily observations flow; and these observations again correct and strengthen our former notions, and render them sources of clear and abundant knowledge.

Lord Bacon says, that *that* would be the most noble kind of grammar, which would be formed, if a man profoundly skilled in several languages were to treat of the various properties of each, and to show their several excellencies and defects. But it is obvious, that he here speaks, only of the result of the grammarian's studies. It is previously necessary, not only to learn the words of the language which are to be arranged and compared; but to acquire the arts of arrangement and comparison.

The first step towards a perfect management, is to comprehend the whole subject matter under a general *idea;* and from what we have already said, it is manifest that the idea of speech is included in the still more general idea of language, which comprehends the principles common to speech, with gesture, writing, &c. The various arts to which these prin-

ciples are capable of application, may be considered as branches of one great family; they are all derived from the same source, always analogous to, sometimes associated or interwoven with each other, and hence, like the sister graces, they will appear to the greatest advantage together.

The general idea of language, applicable to all these various modes of its exercise, is, as we have said, a communication of the thoughts and feelings of the mind. But how can we understand the communication, unless we have some idea of the thing communicated? And which shall we consider as the original and shaping power of a word, the sound or the thought? These questions cannot bear a moment's reflection, and yet there are men, in the present day, calling themselves grammarians and philosophers, who have pushed absurdity so far as to assert, that the faculty of reason itself depends wholly on speech! Assuredly, to know the powers and employment of the tongue, conduces greatly to strengthen and facilitate the operations of the mind, but we cannot understand the former until we have made considerable progress in the knowledge of the latter.

The late Mr. Horn Tooke, in his well known work, "The Diversions of Purley," speaks thus:—The business of the mind, as far as it concerns language, is very simple. It extends no farther than to receive impressions; that is, to have sensations or feelings. What are called its operations are merely *operations of language.*" Let us here ask, what can possibly be meant by "the operations of language," as distinct from those of the mind? Who is language? How does he operate? If my mind, as far as concerns language, do nothing but receive impressions, how comes it to pass, that I ever open my lips? And when I speak, how happens it, that I utter articulate sounds; that those sounds form words; that those words are arranged in a certain order; and that that order is absolutely essential to my being understood? How does language operate, so as to shape itself into nouns and verbs; and those the very nouns and verbs which I happen to want; and all the while without any act whatever of my mind?

It is proper, however, here to observe, that in respect to the general principles here adverted to, Mr. Tooke has neither the merit nor demerit of originality. He is so far a follower of Condillac and the writers of that school, of whose general opinions the following may afford a sufficient specimen. "We cannot distinguish our sensations," says he, "but by attaching to them signs which represent and characterise them. This is what made Condillac say, that we cannot think at all without the help of language. I repeat it,

without signs there exists neither thought, nor perhaps even, to speak properly, any true sensation. In order to distinguish a sensation, we must compare it with different sensations; now their relation cannot be expressed in our mind, unless by an artificial sign, since it is not a direct sensation."

It is hardly possible to expose the absurdity of such statements, without descending from the gravity of a serious disquisition. We shall simply analyse the extract which we have just made, applying to its principles, if principles they may be called, a few obvious exemplifications; and, if the result should appear to border too much on the ridiculous, we trust that the imputation of folly will rest with the original authors of a system so perfectly incoherent.

"We cannot distinguish our sensations but by attaching to them signs, which represent and characterise them." We might first ask what is a sign? Is it a sensation, or something else? If a sensation, is it direct, or indirect? How do we distinguish one sign from another? What part do signs perform in our mental operations;—and many other such questions; but passing over these difficulties, we will come to our author's own meaning; and from the principle which he here lays down, it must follow, that if a native of Scotland should see a book, which in that country is called a *burn*, and should also feel a *burn*, occasioned by touching any heated substance, he would not be able to distinguish these sensations, because he would have attached to them the same sign; neither could he distinguish them, if he even attached to them different signs:—for example, *rivus* and *ustio*, unless each sign accurately represented the thing signified; so that the one sign should re-produce in him, the sight of flowing water, and the other, the touch of a heated body.

"Without signs there exists neither thought, nor perhaps, even, to speak properly, true sensation." Signs, we have before been told, are things characterising or representing sensations. We now learn, that they are, on the contrary, the sensations which represent or characterise the signs. We are taught that the portrait is the original, and the man the copy, without the portrait there would be no man. Some doubt is expressed, whether we might not receive some sort of sensation from striking our heads against a post; but, it is argued, that this would not be a *true* sensation; that we should not really feel the blow, unless we actually cried, "*post*," or read the word, "*post*," which would naturally explain to us, the sort of blow we had experienced.

Two chief causes may be assigned for the errors of modern grammarians: first, their rejection of that philosophy of the mind, on which, as we conceive, the philosophy of language

depends; and, secondly, their confounding historical fact with philosophical principle. The almost unintelligible use of the word, *sensation*, in the passages above quoted, and the vague and contradictory meanings, applied by the writers to the word, *idea*, sufficiently demonstrate their inattention to the genuine workings of the human mind. In tracing the history of words, they have sometimes shown great ingenuity; but they have erroneously concluded, that a particular word which was once a noun or verb, will always continue such; forgetting that the identity of a word depends only on its sound, whilst the distinction of the parts of speech, relates solely to their signification, and, consequently, that the one is a question of the *matter* of language; the other, of its *form*; or perhaps, being unable to comprehend the philosophical distinction between matter and form, and, therefore, concluding, that that distinction was frivolous and unmeaning.

The ancient grammarians, who treated of the Greek and Roman languages, as well as those who, in the middle ages, cultivated the Arabic and its kindred dialects, and those whose disquisitions on Indian Philology, have been laid open to us by recent discoveries, all agree in founding the science of grammar, on that of the mental operations. Nothing but extreme vanity can lead us to suppose, that all the great men, who have ever considered the subject before, have been involved in a more than Bœotian mist of ignorance; and that we alone can dispel the cloud by a single "electric flash." The more modest and rational student will confess, with Mr. Harris, that there is one Truth, like one Sun, which has enlightened human intelligence through every age, and saved it from the darkness both of sophistry and error. It may be safely adopted as a general observation, that the man who tells you that the whole world was ignorant of any particular subject, until he arose to set them right, is himself egregiously in the wrong. The study of Grammar, like all other studies, is susceptible of gradual improvement; but if we admit that the ancients had a tolerable insight into the powers and operations of the human mind, we must acknowledge that they could not be entirely ignorant of the modes in which those powers and operations were manifested by language. An individual writer may have taken a limited view of the subject; but that view could not be wholly erroneous, if he was adequately versed in the philosophy of the human mind.—Let no man ever presume to suppose, that his reasoning powers may not be sharpened; his judgment rendered clearer, or his taste more refined by the lessons of experience. The moment that we think there is nothing more to be learned, we give a decisive proof of ignorance. As the moderns, however, fail

most in the philosophy of language, the ancients failed most in its history. They are rarely to be relied on as etymologists, whilst the moderns, who have enjoyed so much better opportunities of cultivating this branch of the science, have obtained in it, a decided superiority. They have discovered, that most of those auxiliary words, which are employed in aiding the construction of nouns and verbs, were once nouns and verbs themselves; and that those which appear now void of signification, were formerly significant.

It seems to follow from what has been said, that in order to study Grammar as a science, a general survey of the mental faculties should be premised or presumed. These will lead us in our future numbers to a detailed consideration of the parts of speech, both in regard to their separate properties, and also to their syntax or union.

PHILOSOPHICAL EDUCATION.

BY REV. WILLIAM H. M'GUFFEY.

No man can teach, who is destitute of *mind.* No child can be taught, who is without the ordinary faculties of the mind. Nor can the mind of the instructor be made to operate upon the mind of the pupil without an intelligent employment of the means, necessary to mutual intercourse.

It is plain, then, that mind is the *agent* in the business of education, and the *instrument*, and the *object.* It is the mind that *operates;* it is the instrument with which the teacher puts in requisition the means of instruction, and it is the object upon which the instructor expends his skill.

It must be obvious then, that, in order to complete success, the teacher must understand the powers and susceptibilities of that agent, the mind, which is constantly and necessarily employed in every attempt to give instruction. If this is not the case, all his doings must be at random.

No one would be thought likely to succeed in business, who did not understand nor regard the character and abilities of the agents whom he employed. They might be honest, but they would be misdirected, or left to pursue their way without instructions of any kind.

Such is too much the case in every profession; but more lamentably true of the profession of teaching.

But it is even more important, that the teacher should understand the properties of the mind, as an instrument, than

that he should know its powers as an agent. An artist may not be fully aware of his own powers, and yet if he has "the use of his tools," he may employ them to some good purpose, in obtaining desirable results. But if he is unacquainted with the use and construction, and temper of the implements necessary to be employed, he cannot fail to be unsuccessful.

Suppose a man to be unacquainted with the corporeal faculties, so far as not to know to what organ the several sensations of sight, hearing, touch, taste and smell, are respectively referable; he would be in great danger of falling into ridiculous, if not dangerous mistakes. He would, to be sure, be susceptible of all the variety of sensations experienced by other men. But let him attempt the *voluntary* exercise of his organs; and his want of knowledge would become painfully conspicuous. Or let him undertake to instruct a child in the use of its organs of sense, and (if as ignorant as we have supposed) he would be found holding his watch to the *tongue* of the child in order that it might *hear* the sound which it made; or he might be seen applying a colored object to the *ear* that the learner might be amused with its brilliancy.

Similar mistakes must ensue in case of equal ignorance as to our mental powers and moral susceptibilities; not when they are left to their instinctive tendencies—but just so soon as their possessor undertakes to give them a voluntary or philosophical direction, and this he must do in every attempt at rational instruction.

But can an instance of such extreme ignorance of our mental character be presumed to exist amongst those of adult years, and the least pretensions to education? Would that a prompt and decisive answer could be given in the negative. Should you ask a dozen of intelligent individuals, taken at random from the ranks of professional teachers, the difference between *memory* and *imagination*, for example, or between *reason* and *judgment*, would you be likely to receive a prompt and intelligent answer? Might we not rather expect (and that too without the least disrespect to either the talent or industry of the persons thus interrogated) that they would at once confess, that they had never given any attention to the differences between these very distinct mental operations.

Now, in education, the different powers of the teacher's mind have different functions to perform, which can no more be transferred from one, to the other, than the function of sight can be performed by the organ of hearing. What chance for success, then, can there be, except what may accrue from mere accident?

The danger is now greatly enhanced from the fact, that instruction by rule or by rote is no longer tolerated. Once it

was enough, that the schoolmaster kept in the track that custom, or his predecessors had marked out for him. No one enquired farther than whether the "*master*" went the accustomed round; and if the answer was in the affirmative, all was well. But of late, philosophy has touched the schoolmaster with her wand—innovation on old customs is the order of the day. Philosophical systems and shreds of systems are found on almost every page of every newspaper, and in the preface of every school book. New plans are introduced, and experiments are tried in school houses from the log cabin to the University. And it is all right. Let no one check it, if he could. Only let us all use our best efforts to bring correct *principles* into use, since we have with *one* consent agreed to be governed by principle, and not any longer by rule. Necessity, then, for us as teachers, to study our own minds as the instruments which we use, arises in a great measure from the impulse given to the *science* of education.

But it is mainly, as the *object* upon which education operates, that a knowledge of the mind becomes important to the instructor. No two minds are alike. This enhances the difficulty. For, how shall he distinguish between minds that are different, who knows not what are the general properties or peculiar faculties of the human intellect? The statuary may know his own powers; he may be acquainted with the nature and use of the implements which his art employs, but still he will not be successful in the execution of his task, unless he can distinguish between the freestone and the marble that may come under his chisel. The man wholly ignorant of mind, may strengthen the passions while he is aiming to cultivate the understanding; and will be likely to produce results the very reverse of what he intends. Indeed, if such a one is ever successful as an instructor, it must be by mere accident.

These views cannot be better confirmed than by an extract from the work of that judicious writer, and most laborious compiler on Mental Science, Thomas C. Upham, of Boudoin College.

"It is well known," he remarks, "that children and youth adopt almost implicitly the manner and opinion of those under whom they happen in Providence to be placed, or with whom they much associate, whether they be parents, instructors or others.

"Let it, therefore, be remembered, that passions, both good and evil, may then rise up and gain strength which it will afterwards be found difficult to subdue. Intellectual operations may, at that time, be guided and invigorated, which, if then neglected, can never be called forth to any effective purpose in after life.

"Associations and habits of various kinds may then be formed which will defy all subsequent attempts at removal, and will follow the subjects of them down to the grave. In a word, the soul may be trained in no small degree, either to truth or falsehood, virtue or vice, to activity or sluggishness, to glory or infamy.

"When we take these things into view, and when we further recollect the frequency of characteristic if not original differences in intellectual power and inclination, no one certainly can be considered properly qualified for the great undertaking of a teacher of youth, who has not formed a systematic and philosophic acquaintance with the principles of the mind." Ment. Phil. p. 25.

The writer of this article would not have it understood, that the knowledge of mind, requisite to success in teaching, can be acquired only from *books*. Indeed, it cannot be acquired from *books alone*, however extensive may be our reading. If our acquaintance with the philosophy of mind must be confined (but why need it be?) to any one source of information, let books be neglected rather than men.

The *living* subject is a *better* study in mental as well as in material physiology than *dried specimens*, however well selected or perfectly preserved. There are in the ranks of professional teachers, many who have never read a single work on Systematic Metaphysics, who nevertheless have, from observation and experience alone, acquired a more profound, and what is better, a much more practical acquaintance with the human powers and susceptibilities, than falls to the share of any mere book learned pretender to philosophy. Nothing more is wanting to a great majority of those already engaged in the business of instruction, than that they should have their attention turned to this matter in order that their success might be complete. They have the talent. They have the intelligence. They have the industry. They can command the *attention* of their pupils—a task harder to perform than to command the attention of the largest audiences; they can and do communicate to the minds of their pupils their own mental movements. What then do they need but to make their profession a *science* as well as an *art*. Let no one in our ranks despair. The most eminent men in all the liberal professions in our country have found their way through the "school house" to their present elevation. And if they can rise from such beginnings to the highest eminence in other professions, why may they not rise still more easily to the highest rank in their profession as teachers—an eminence it will not be disputed, still greater than the same rank in most other professions? "The man," said an intelligent citizen of this city

very recently, "who has reached the head of his profession as an instructor of youth, must be admitted to occupy higher ground that the most distinguished member of the other professions. What merely professional man in our land, would not envy the more than desirable reputation of the veteran instructor of youth, who has grown gray in the service of the most valuable part of his fellow citizens, the youth of his country? Who, in old age is so likely always to be distinguished by the members of his profession as the aged teacher? Who can meet his fellow citizens of all ranks in society, on grounds that preclude debate and contention, except it be the aged and eminent instructor of youth? In politics, party spirit prevents this. In literature rivalry will prevent. In religion, sectarian views always have prevented it, and it is to be feared, always will. It is only in education, that the foul fiend of discord has not found, and may we not hope, *can* find no entrance.

TEACHERS, PARENTS AND COMMON SCHOOLS.

BY THE EDITOR.

The expression, that education forms the man, has become a maxim. Its operation commence swith our existence. Every thing, whether proper or improper, which passes, strikes with amazing force, the mind and heart, and leaves a strong impression. Hence the necessity of excluding the young from seeing or hearing any thing which may tend to injure moral purity, or weaken the growing strength of their understandings and affections. Since impressions and habits formed in the vestibule of life, adhere strongly in after years; since future character and conduct are shaped by the actual condition of the mind; since too, both mind and heart are formed by the nature of the discipline to which they are subjected in early years; it becomes a duty, superior to all other considerations, of those who have given life to human beings, to watch them with an eye that never tires; to see that those who have the charge of their intellectual and moral instruction, are adequate to the task, and that, *they themselves*, fail not in the performance of the high duties which by becoming parents, they have imposed upon themselves, and that they aid those whom they delegate to act in their place, to train them up as dutiful children and good members of society, respecting the laws of their country, and obeying the laws of God.

These are to every reflecting mind, sentiments of obvious and unquestionable correctness; how far they are adopted and acted upon by parents themselves, and how far, those who assume the office of instruction, daily experience points out in the shame and anxiety youth bring upon their nearest and best friends, and in the superficial knowledge and its consequences, received under the direction of teachers. For ourselves, we are convinced, that every thinking member of the community, truly reprobates not only the indifference of many parents to their children's mental and moral welfare, and their choice of inadequate instructors; but, also, any system of instruction at *home* or at *school*, which makes children merely passive instruments; which lays in them, for after life, that state of mind from which only emanate vague notions of things; which renders them, in truth as far as they are the subjects of government, "mere hewers of wood and drawers of water," which plants deeply that cast of the understanding which becomes the sport of prejudice and passion, and the dupe of its own, as well as other's folly and wickedness.

We believe, that the system of education adopted in any country, exercises over public mind and conduct, an unbounded influence; and this influence when favorable, is exhibited in the practical concerns of life, in liberality of sentiment, in elevation of individual, as well as national character, in a willing subjection to the laws of the land, and reverence for the laws of a superintending Providence. These are some to the effects which we wish to see general, and which would show at once the deep and clear fountain from which they spring. A system which does this, does something to the purpose; the teachers who thus raise intellectual and moral character, labor to some end; they do well; act nobly. The profession that aims at, and accomplishes these things, is surely one of the highest responsibility and honor. If fame attend the warrior, whose glory rises in proportion to his well conducted campaigns, we think, whatever may be opinion on this point, that they who train youth, nobly and religiously, are benefactors of the human family, and serve, equally as the triumphant soldier, the cause of their country. In the language of Seneca, it is not the man that leads armies to victory, or the statesman that gives his opinions on peace or war, that serves his country only; but, who *exhorts* youth, who furnishes their minds with *virtuous* principles, who transacts public business in private."

It has been said, and adopted as a political maxim, that children are the property of the state. In this view of the subject, a double duty is imposed upon us, first as individuals, and secondly as a body. In the former case, children are or ought

to be the chief of our possessions and consequent care; and as we have given them life, so we should prepare them for happy and honorable action here, and for a future existence. In the latter case, if they are to be public property, so their superintendence should be a public concern. They will constitute in a few years, the beings who are to support or overthrow the institutions of our country. They, from this cause, require every possible attention? Why neglect them, while every other matter claims especial notice? We select with the greatest care, able captains, acute lawyers, expert mechanics? We do all these things with the most scrupulous exactness. In intellectual or moral, or both, we seem to leave all to chance, or, at least, we exhibit great indifference. In this age of the world, when civilization and Christianity are spreading their light and blessings into every corner of the earth, and demolishing the altars of superstition and sensuality—is it rational—does it comport with the principles of sound morality and wisdom, to act thus? Do we not do it? Want of time, or forgetfulness, or even ignorance, is no justification of such rank inattention. "We lay the flattering unction to our souls," that all will be right. We make our children read the bible; we take them to church with us; we send them to school too; we talk as if our whole soul is wrapped up in their welfare; we attend them in sickness, and call in the best medical aid; and yet, in the most important of all considerations, the *formation of the intellectual and moral being*, do we not entrust these very objects of our solicitude to improper guides, and to unphilosophic systems of instruction, superadded often to parental neglect, by which their blithe young hearts are repressed in their natural sensibilities, their minds cramped and swathed, and made the repository of passion, vice and ignorance; a fit place in which the fierce dispositions of the soul may be fostered into full energy.

We have spoken of the influence of a system of instruction on the development of the active faculties of the mind. We have deprecated a bad one, and shall explain what we mean by it. We say then, in the language of De Stael, who utters the sentiments of every eminent writer on this subject, that the system is a bad one by which youth are taught to spell and read a little, to acquire a trifling knowledge of geography, grammar, and arithmetic, without the power of using them. A system is a bad one, by which that habit of mind is acquired, and which it is so difficult to eradicate, of repeating or reading without comprehending; of laboring without getting any thing valuable; of keeping scholars going over the same thing in different forms, till they are tired and worn out; of breaking down the mind's flexibility, and narrowing its intrinsic force, by making

it skip over the intermediate links by which successive ideas are kept up, and made to tend to some point; of obliging them to go forward, whether able or not, without knowing what they have been over, and thus making their heads a scene of confusion; which neglects the due cultivation of *all* the mental powers; which aims at giving a little knowledge to the *head*, while the *heart* is forgotten, or is held secondary;* which allows without restraint a too free indulgence of the passions; and which looks upon man as a mere thing of earth, without reference to his high moral and intellectual capacity, and the destiny which awaits him in another existence. This we call a bad system.

But how, it may be asked, if such a state of things exist, can it be changed? The answer is obvious. If instructors and modes of instruction, are defective, call into action those that will answer. But what is meant by qualified men? We answer, men whose minds have been disciplined in the school of rigid study and virtue; whose faculties have received polish, energy, and firmness from their deep acquaintance with literature and science; men who have the power of arresting the attention of the most listless by taking hold of their intellect in the proper way; who can transfuse into minds their own knowledge, and make it an imperishable part of their stock. This, it may be said, is requiring much; and so it is; and the reason it is required, is, because our children and our country demand it. We want, and must have, if we expect justice

* It is unfortunately the case, that the cultivation of the *mind only* is more the object of attention, than that of the *heart*. We repeat, what has often been said, that education, when it exercises its legitimate office, looks to the heart, whence all truly great actions emanate, and which is the *source* whence individual happiness and prosperity, or misery and disgrace, arise. On this point we add some remarks of the celebrated Locke, author of Essays on the Understanding. He says, "It is virtue, then, direct virtue, which is the hard and valuable part to be aimed at in education, and not a forward pertness, or any little arts of shifting. All other considerations and accomplishments should give way to this. This is the solid and substantial good, which tutors should not only read lectures, and talk of, but *the labor and art of education should furnish the mind with, and fasten there*, and never cease till the young had a true relish for it, and placed his strength, his glory, and his pleasure in it. Learning must be had, but in the second place, as subservient only to greater qualities. Seek those who may know how discreetly to form his manners; place him in hands where you may, as much as possible, secure his innocence, cherish and nurse the good, and correct and weed out any bad inclinations, and settle him in good habits. This is the main point; and this being provided for, learning may be had into the bargain."

To the same purpose Lord Kames observes, "that the educating of a young man to behave properly in society, is of still greater importance than the making him even a Solomon for knowledge."

done to our offspring and our purses, "teachers who, by patience, observation, and a philosophic study of the workings of the human mind, have acquired a knowledge of what is elementary in thoughts, and successive in their development, and who have learned the practice of the *art* of gradation in the art of instruction; who know the *art* of going backwards with what they know, or with their knowledge, in order to make their scholars comprehend them." Men who are thus qualified are the ones wanted. One man of this character is worth a thousand of those gossips who lay claim to a perfect knowledge of the human mind, and who deal out at retail a certain round of school-book lessons and other men's thoughts, unable to strike out a glowing thought, or arrest the attention of wearied pupils, by animated description or just reasoning:—who figure a feverish hour, with an a, b, c book in one hand, and a slate-pencil in the other, as lords of the academic floor; as masters and controllers of their scholars' minds. Put the question to an enlightened teacher, what constitutes the soul of teaching, and mark his answer. It will be, that to teach successfully, it is necessary to become complete master of the operation of young minds; that, as much as possible, precision of instruction must be united with vivacity of impression; that it is not so much the depth of any science, as obscurity in the manner of presenting it, that hinders children from attaining it; because they comprehend every thing by degrees, and the essential point is to measure the steps by the progress of reason in infancy; and this progress, slow but sure, will lead as far as possible, if we abstain from hastening its course.

It has been said, again and again, that the perpetuity of our republican institutions depends upon the intelligence of the people. The truth of this remark is allowed in all its force. It is based on the supposition, however, that the people, who hold all power in their hands, must be well educated, either in our schools, or colleges, or by their own exertions; that in consequence, they know into whose hands they delegate their power; that their vision is clear enough to mark intrigue, and that they know their rights, and have spirit to defend them. All this is well enough. But can the people be made these keen sighted beings under injudicious systems and teachers? The people of the present day boast of the general intelligence of our country; and yet, forsooth, can this intelligence, as it is called, ferret out political corruptions? How few of the mass discriminate efficiently, or think correctly about passing events. We apprehend that the intelligence spoken of is not the right kind. But this knowledge, whatever it may be, is the product of the systems of education in vogue, both at *home* and in the *school-room*. It is true, indeed, and it is to be hoped,

as time lays its hand upon them, and lofty minds are called into service, and the people themselves take the subject in hand, that the present spirit of education will give place to a solid and useful one. The sooner the change is produced the better. We, who are now on the stage, are rapidly passing off, and in a few years the lisping infants whom we see around us, will become our country's legislators.

In order to the general intelligence of the people, various institutions have been brought into existence by the generous bounty of individuals and legislative enactments. Among the most efficient of these, is the institution of public schools. They are the nurseries of universities and private schools, and inasmuch as they flourish, and are protected by wisdom and justice, will a love for learning be spread, and private academies and colleges be increased. We deem the public schools* of our land among the most glorious monuments of its history. To them, therefore, peculiar attention should be given. They must be, when well managed, a powerful engine in pouring forth the streams of knowledge among those who need it most, and if that knowledge be of the right kind, and the minds of those who receive it are moulded by it into proper form, they will prove the strongest and most enduring support of our government and union. The *people* have much at stake in the business of education, and they should look well to the subject.

We may talk of the intelligence of the people, and the institutions for the distribution of knowledge; the legislature may enact school laws, and the people pay their money cheerfully; we may exult with even a nationality of pride over the splendid structures of marble and stone, with ample endowments, erected for the purposes of education; we may extend our dominions, and people the shores of the Oregon with active and hardy men; but what will they all avail, if the very foundation of national greatness be sapped by injudicious education at *home*, or by improper systems of instruction in schools and higher places of learning? We lay it down as a truth, that no nation ever yet maintained its freedom and spirit, from which a broad, liberal and manly education was excluded.

* The public school houses of Cincinnati are proud monuments of the spirit of our citizens. And there is manifested towards the schools an interest which shows awakened zeal in the cause of sound education. The Board of Trustees and Examiners labor successfully to elevate their character, and make them worthy of support. The teachers themselves, too, display high energy, and use every exertion to advance their growing usefulness. We doubt whether any body of instructors perform their duties more faithfully than those of our public schools; and whether, in any part of our country, there are similar establishments of superior merit, and over which are exercised by teachers and trustees, greater care and interest.

LITERARY LABOR.

BY THE EDITOR.

I.

The progress of truth, both in physical and mental science has been slow. In each, undoubtedly, great advances have been made, and yet, it must be confessed, that we know comparatively little. We are acquainted with but few great and comprehensive physical laws, and, perhaps, with as few which relate to the human mind. We are in the infancy of mind and matter. Of the essecne of either, we shall probably remain forever ignorant. Hypotheses to explain the phenomena exhibited by each, are indeed frequent; but their frequency does not bring us any nearer to the real substratum of either, The supposition of Boscovitch, that the atoms of matter are mere mathematical points, surrounded with spheres of attraction and repulsion, and which seem to have attracted the attention of Dugald Stewart, have met with the same fate as the Cartesian vortices, and the Berklerian system of metaphysics. Truth or fact is not dependent upon a chain of mere abstract reasoning, but, rests in the causes of things, a knowledge of which can only be obtained by long observation and many experiments, aided by strong analytical and deductive powers of intellect. Hence the necessity of close and continued inquiry under proper regulations, and within due bounds, not by one age, but by successive ages. Truth requires for its establishment, the labor of many minds; and when a sufficient number of facts are collected, some powerful genius will classify and deduce from them general laws. The greatest intellect, unaided by facts, never discovered a great and extensive law of nature. Sir Isaac Newton could not have arrived at the just glory he has, had not Copernicus, Gallileo, and Tycho Brahe lived, and the deep and philosophic Kepler furnished to his hand, among others, the laws which govern planets in their elliptical revolutions. Nor could the illustrious Bradley, or La Grange, have given to the world their amazing discoveries; the former the aberration of the fixed stars, and the nutation of the earth's axis;*—and the latter, the periodical inequalities of the planets, and proof of

*The discoveries of Dr. Bradley make a memorable epoch in modern astronomy.—Somerville says, that after Newton's discovery of the mechanical laws of the elliptical orbits of the planets, La Grange's disco very of their periodical inequalities is, without doubt, the noblest truth in physical astronomy, and in respect to the doctrine of final causes, it may be regarded as the greatest of all.

the stability of the solar system,—had not their predecessors prepared the way. The labors of men are like the links of a vast and extended chain, each successive age adding to its length. And, yet, all the facts which are known, and which are comparatively new, and excite deserved admiration for those who brought them to light, have existed since the creation of the world. And how many minds, too, during that period, have toiled under the expectation of reaching some mighty results, and have gone down to the grave, with the hope of literary immortality? Of those vast numbers, how few of the names do we hear mentioned, and how many are entirely forgotten!

The advance of mental has been no less slow than physical science. It would seem that the human mind is adverse to truth, not because truth in itself is disagreeable, but, because its passions and its tendencies to sensualities, are stronger than its reasoning faculties; and hence, prejudices and feelings unknowingly assume the seat of judgment, and rule with rigid power. Truth must always be opposed to mere hypothesis and the visions of diseased minds. It is from these sources that she has received the most formidable assaults. From the time of Socrates who taught the unity of God and the immortality of the soul, in opposition to the theology of his day, down to the persecutions of Gallileo and Ramus, truth was unable to advance. The physics and dialectics of Aristotle reigned for two thousand years. Among Christians, Mahomedans and Jews, he was the grand authority in the decision of questions of mind and matter. Error exercised its full sway and the human mind was palsied. But error cannot rest in security. So soon as mind sees its own powers, and feels its high dignity, it will seek the causes of things in their true source, nature. Mere speculation must give way before facts and their legitimate use. Such was the case in regard to Aristotle. It was the great Lord Bacon and his coadjutors that brought the human mind to know *how* truth is to be obtained, and to free itself from the shackles of opinion.

To produce the present state of science, which, in its range exhibits the wonderful power and comprehension of human intellect, it is seldom considered what immense labor there has been, and how slowly principles have been generalized. Nor is it often considered how much the greatest intellectual glory of an age is indebted to the works of those who have preceded. Gassendi, Kepler and others, had cleared away the rubbish of centuries, when Newton commenced his career. John of Salsbury, Gilbert, and Roger Bacon had taught mankind, that neither Popes nor Grecian philosophers were either infallible or irresistible, when Lord Bacon appeared, aided

by the art of printing, and the reformation by Luther, to give additional force and impulse to the heaving and agitated mind of the people. But, in speaking of Newton, who hears associated with him, the names of Kepler, of Flamsted, of Hooke, except a few mathematicians? Newton peers in lonely triumph above all. And who in naming Bacon, thinks of Bruno, Campanella, or Peter Ramus, who aided strongly in sapping the Aristotleian philosophy? Those who toiled seem only, as far as their own reputation was concerned, to have prepared materials to aid some genius to throw upon itself the garb of immortality. Whatever knowledge of physical truth we possess, has been the result of successive thought and experiment. Science as it is, may be compared to a massy temple, raised by the labor of a thousand hands, and its lofty spire, finished by one or two master workmen, concentrates upon the architects, the admiration of the world, to the exclusion of those who laid its granite foundation. The pioneers of science, like those of the wilderness, are either forgotten, or, their labors are assumed by successors who reap fame. Of those now engaged in exploring the vartous departments of physical science, who will stand prominent a hundred years from this time? The electricians, geologists and others of the present hour, are only preparing the way for some Newton, or Bacon, in whose brightness they will be lost.

But it does not, in every instance, require time to hand over to an individual, the praise which belongs to another. Aspirants after eminence, in our times, boldly plunge upon the works of the departed great, as public property. Hence they draw their materials, and pass them upon the world as original. Popular applause is gained; ambition is satisfied. With the labors of the illustrious dead before them, writers and lecturers may pour forth borrowed thoughts through the mere force of memory, adorned in style suited to the spirit of the age, and enjoy reputation when none is deserved. We speak of the works of the great; not of those who make a system of moral philosophy, or compile quarto dictionaries, or histories, out of the writings of learning and genius, and then demand the praise due to the spirit of originality. Such men have neither place nor claim in the temple of immortality. Their voice cannot be heard in the world of enduring fame; no, not even its echo.

II.

Illustrative of the preceding remarks, we adduce a few instances in which the merit due to one has been appropriated by another.

The first is that of multiple proportions. Of the two grand laws of chemical union; viz: the general reciprocity of the saturating proportions; and the multiple and submultiple combinations; the former was discovered by J. B. Richter, of Berlin, about 1792; the latter by W. Higgins, about 1790.

It is well known, that two chemical constituents frequently unite in different proportions, forming distinct and often dissimilar compounds. Is there any law, says Dr. Ure, from whose writings we make this abstract, regulating these compounds, so that knowing the first proportion, we may infer the whole series? This question was first answered by Mr. Higgins in his comparative view of the Phlogistic and Antiphlogistic Theory, printed in 1788, and published early in 1789. In this work, he opposes the hypothesis of Phlogiston; distinctly advances the doctrine of multiple proportions, and exhibits new and ingenious views concerning gaseous and atomical combination. These discoveries announced by him in 1789, were about nineteen years afterwards brought forward by Mr. Dalton, and claimed as original. Mr. Dalton is hence generally deemed the founder of the Atomic system of Chemistry.* Mr. Higgins, feeling himself aggrieved, published in 1814 another work, entitled, Experiments and observations on the Atomic Theory and Electrical Phenomena. In this work, he gives numerous quotations from his Comparative view, which fully establish his claim of priority to the discovery of multiple proportions and the Atomic Theory.

Chemistry is unquestionably under great obligations to Mr. Dalton. We most willingly allow him the due credit he deserves for his chemical investigations; for his refutation of the doctrine of indefinite proportion, as taught by the celebrated Berthollet; for his correction and extension of Richter's scale of reciprocal saturation and revival of Higgin's long neglected discovery of multiple proportions; yet we are not disposed to pass over the rank injustice with which he treated Mr. Higgins in omitting all mention of his name and experiments. Who hears of Mr. Higgins? What tribute is paid to his genius? But Mr. Dalton stands in public estimation with all the honors of an original discoverer. Is the almost forgotten Higgins the only individual, from whose head the chaplet of fame has been plucked by another hand?

Brande, in his history of Chemistry, furnishes another ex-

*Reid in his Chemical work, says both Dalton's and Higgins' views were connected with speculations concerning Atomical combination, and that Dalton and Wollaston, about the same time, without a knowledge of each other's views, advanced the opinion of multiple combination. But they say no more of Higgins, than Lavoisier did of Mayow, Rey or Hooke.

ample. Lavoisier, it is well known, ranks high among the cultivators of this science, and was mainly instrumental in overthrowing the Theory of Phlogiston, which owed its origin to Stahl. But Lavoisier seems to have received more credit on this point than he deserved. It requires no deep inquiry or minute investigation to detect in the researches of Priestly, Scheele and Cavendish, the materials of which their cotemporary, Lavoisier, aided by several celebrated chemists of the French school, constructed his theory; and a retrospect of the works of Mayow and Hooke will show, that the antiphlogistic system almost necessarily arose out of a combination of their views with the more modern discoveries.

In the reform* in chemical science by which a new nomenclature was introduced, and which ended in the banishment of phlogiston, Lavoisier took the lead. His original investigations connected with it are few, and comparatively unimportant; but the skill and success with which he used the labors of others, seem to render them his own. His refutation of the phlogistic doctrine is a masterly performance; but, if we look to the abstract facts upon which it rests, we shall search in vain, either in the works of Lavoisier, or in those of his cotemporaries; they were exclusively furnished from other quarters, and, on reference they may be found in the writings of Mayow and Hooke, and in those of Priestly and Scheele. The prominent features of the French theory are its explanation of the phenomena of combustion and acidification, the presence of oxygen being deemed essential in both cases. That air is the food of fire, was known in the remotest ages; that it causes an increase of weight sustained by metals during their fusion and calcination, was shown by Rey as early as the seventeenth century; that, a part only, of the atmosphere, is concerned in the support of flame, was explained by Hooke in 1667; and that the vital or igneous spirit, as he terms it, of the atmosphere, is concerned in the formation of acids, was asserted by Mayow in 1674. Hence without advancing into the eighteenth century, we have, in explicit detail, all the facts and arguments requisite for the construction of the French theory; but, if to these, we add the discovery of oxygen by Priestly, and of the composition of water by Cavendish, what then becomes of his claim to originality? He has, however, reaped a full harvest of glory, not by splendid discoveries, but by the skilful use of other men's labors. In bringing forward his theory of combustion, why did he smother the lucid opinions of Rey and Mayow? Why refuse praise and acknowledgment to Black and Scheele and Cavendish? Or,

*This abstract is made from Brande's Chemistry.

why appropriate the discovery of oxygen, in the face of the prior, indisputable and known claims of his friend and cotemporary, Priestly? Whether these men were neglected purposely or not, is immaterial. Some of their names are indeed heard, but Lavoisier ranks among the illustrious men of his age.

Another instance, we find in Hutton's Mathematical Tables. It is one which we conceive forcibly illustrates our reremarks. The author referred to was Henry Briggs, born in 1556, a man not less esteemed for his great probity, and other eminent virtues, than for his excellent skill in mathematics. He was the inventor of the common or Brigg's logarithms, so called because he first computed them, and first mentioned and recommended them to Lord Napier, instead of the first kind invented by Napier.

At the time of the publication of Napier's logarithms in 1614, Briggs was professor of Geometry in Gresham college, in London. On their appearance, Briggs immediately applied himself to the study and improvement of them. He began very early to compute logarithms; but, those were not of the same kind with Napier's in which the logarithm of the ratio of 10 to 1 was 2.3025851 &c; for in Brigg's first attempt, he made 1 the logarithm of that ratio; and from the evidence we have, it appears that he was the first person who formed the idea of this change in the scale, which he presently and so liberally communicated, both to the public in his lectures, and to Lord Napier himself, who *afterwards* said, that he also had thought of the same thing.

From the letters of Napier himself, it appears plain, that Briggs was the inventor of the scale of logarithms, in which 1 is the logarithm of the ratio of 10 to 1; and 2 that of 100 to 1, &c., and that the share which Napier had in them, was only advising Briggs to begin at the lowest number, 1, and make the logarithms, or artificial numbers, as Napier had also called them, to *increase* with the natural numbers, instead of *decrease*, which made no alteration in the figures that expressed Brigg's logarithms, but only in their affections or signs, changing them from negative to positive.*

There is not the least doubt, that Briggs, whether he had thought of this improvement in the construction of logarithms, of making 1 the logarithm of the ratio of 10 to 1, before Lord Napier or not, was the first person who communicated the idea of such an improvement to the world. He also mentioned

*See Hutton's History of Trigonometrical Tables, and History and Construction of Logarithms, prefixed to his Mathematical Tables, and Hutton's Mathematical Dictionary. From the former this abstract is made.

it to Napier, who approved the idea, and said he had thought of it before, and had determined to adopt it. It would, therefore, have been more candid in Lord Napier to have told the world, in the second edition of his book, that Briggs had mentioned this improvement to him, and that he had thereby been confirmed in the resolution he had already taken, before Brigg's communication with him, (if indeed that was the fact) to adopt it in that his second edition, as being better fitted to the decimal notation of arithmetic which was in general use. Such a declaration would have been but an act of justice to Briggs, and the not having made it cannot but incline us to suspect, that Lord Napier was desirous that the world should ascribe to him, alone, the merit of this very useful improvement of the logarithms, as well as that of having originally invented them; though if the having first communicated an invention to the world be sufficient to entitle a man to the honor of having first invented it, Mr. Briggs had the better title to be called the first inventor of this happy improvement of logarithms.

Many confirmatory instances might be added, but one or two more must suffice. It is known to Algebraists, that the term unciæ, in algebra, was first used by Vieta, denoting the numbers prefixed to the letters in the terms of any power of a binomial. They are now more commonly and generally called co-efficients. It was the same Briggs of whom we have spoken, that first showed how to find these unciæ or co-efficients, one from another, in any power, independent of the foregoing powers. They are now usually found by what is called Newton's binomial theorem, which, as Hutton remarks, is the same rule as Briggs', but in another form. But with all the mathematical talents Briggs possessed, who hears of him? His labors added brightness to Napier's fame, and is another example of those whose genius has been exerted to add to the reputation of others.

Might we not add to those who have contributed to the advance of science, the name of the American, Godfrey? Beyond doubt, he was the inventor of the quadrant, and yet Hadley wears the glory of the invention? And, even, in our own day, has not the hand of injustice attempted boldly to take the credit of the compound blow-pipe, which unquestionably belongs to Dr. Hare, a celebrated chemist of our country? But enough; it is difficult to deserve fame, and almost as difficult to preserve it.

Falsus honor juvat.—Horace.

DURABILITY OF TIMBER.

BY ELIJAH SLACK, M. D.

An impulse, unknown to the last generation, has been given to internal improvements. No agent has been so powerful as steam in creating the great prosperity of the Mississippi Valley, and bringing to light her immense resources. From the time of the first and successful experiment of steam navigation on the Western waters, the tide of emigration has rolled onward from the east, bringing wealth, enterprize and talents into these vast and fertile regions. Canals and rail roads, the bearers of the productions of the soil and manufactures, are leaping into existence in every direction. Places, once deemed far distant from each other, are now brought, as it were, into close neighborhood. If the prosperity of the west is so great as it is at present, what will it be in some few years, when the gigantic improvements now in contemplation, shall have been finished, and science and moral instruction shall aid, in the proper direction to happiness and wealth, the energies of the vast population of the west.

The subject of my present number is designed in aid of the public works, which now occupy attention: I mean *Timber*, as a building material, and is addressed to those who may be employed as engineers.

Our forest trees yield an indispensable material for the construction of public and private edifices, and for canals and rail roads. It is a truth well known to every builder, that there is great choice in the quality of timber, as respects strength and durability. Some is brash, and comparatively void of strength: other kinds are sufficiently strong, but possess so great a tendency to decay as to render them unfit to be used in any exposed or uncovered situation. Timber trees, then, which have the most durability, ought to be well known to builders; and this information is, in general, possessed equally by the farmer, mechanic and engineer. But how to dispose of the best timber which our forests afford, so as to impart to it double or triple its native power, is not so well understood; and perhaps I might say, remains a problem to be solved.

The difference of Atlantic timber, and that of England, as compared with the timber of the West, in regard to growth, strength and durability, will form no part of my present article.

The most durable American material appears to be the white oak, the walnut, the yellow poplar, the pitch pine, the cypress, the black locust, the mulberry, and the red cedar.

In dry situations several other kinds may be employed to advantage.

In timber naturally solid and of sufficient strength, that which causes its decay has not been properly and efficiently investigated. To my mind, it is clear, that the nature of the sap and the changes it undergoes after the material is cut, may be considered the cause. When timber is seasoned, as it is termed, the sap is measurably evaporated; or it has become inspissated, the water only being converted into vapor. Whenever, therefore, moisture is absorbed by timber thus prepared, the inspissated sap is dissolved, and a weak acid is usually formed, which by heat rapidly generates the putrefactive fermentation. This soon produces decay and destruction. Wood which possesses the most durable nature, possesses it because the sap in it—from the presence of some essence, soluble resin, saccharine matter mixed with an antiseptic, or an antiseptic alone, even though moisture may be absorbed—has no tendency to form an acid, and produce destructive fermentation. This is shown by an examination of each kind of durable timber. The cypress is always a very sweet wood, and continues to be so, though exposed to great moisture. The same remark applies to the red cedar, the mulberry, the locust, the pitch pine, the walnut, and sometimes to the oak. The last of these, however, has more tendency to assume a sour state from moisture than most of the others, and therefore, unless kept dry, it tends more to decay.

The facts which I have mentioned, lead me to some explanations and theoretic suggestions of artificial methods by which the durability of perishable wood, may be considerably secured.

The Charring of Timber. Charcoal is known to be an antiseptic of the best kind. This the ancients well understood. The charred stakes of oak, perfectly sound, taken, a few years ago, out of the river Thames, show that the Romans were acquainted with the durability of wood thus prepared.* The judicious charring of oak posts, to be set in the

*These stakes were planted in the river by Julius Cæsar, before the birth of Christ.

Charcoal in the state in which we obtain it from wood seems indestructible by age. We add as additional examples of the above remarks, that the piles on which the foundation of the temple of Ephesus, in Asia Minor, rested, and which edifice was burnt 356 years before the birth of Christ, had been charred. When taken up in modern times, the charcoal seemed perfectly fresh, and even the marks of the axe were visible. Manuscripts and other articles which were reduced to coal and were recently found in Herculaneum and Pompeii, had undergone no change. These cities were overwhelmed by an eruption of Vesuvius, in the year 79 of the Christian era. EDITOR.

ground, surrounds the solid timber with an antiseptic which preserves the sap dissolved in moisture from an acid change, and thus secures it from decay.

Mode of Charring. If a casting were provided of proper dimensions, and set in a furnace so as to be conveniently heated *red-hot*, and the materials were rapidly charred, so as not destroy their shape and firmness, their durability would be greatly increased. An apparatus of this kind, for the preparation of posts and exposed timbers, is easily constructed, and might become, so soon as its usefulness is tested, a source of profit.

Method of Steaming Sleeping Timbers. In connection with this, I would suggest the propriety of steeping timber in boiling water, or steam, and allowing it to dry before it is charred. By this means, the inspissated sap would be effectually dissolved, and the process of drying would almost entirely dissipate it. An apparatus for this purpose could be easily constructed, and at little expense. Besides, if, instead of pure boiling water, salt, or potash, or pyroligneous acid* or weak ley be employed, according to the character of the wood, the acid of which I have spoken, will be in some measure neutralized.

If then the durability of wood can be secured by the modes I have mentioned, what extent of it may we not give to the noble oak? It may be made to equal (when deposited in the ground) the red cedar, the mulberry tree, or the locust. The permanency of the cypress and locust, is well known. I have a pair of mulberry gate posts which had stood forty years in the earth, and are almost sound. If wood, without any precautionary measure, lasts thus long, what duration may we not impart to it by proper expedients?

In connection with this subject, I might mention *wet and dry* rot, which are so destructive to public works.

Wet rot results from the operation of heat or temperature and moisture. In drying, large pieces of timber crack more or less with the grain. In exposed situations, as open bridges and the sills of rail ways, the moisture enters through those fissures. Injudicious morticing of large beams on the upper side, without regard to a means of draining water off, is perhaps more injurious than the natural cracking of the timber. Water thus enters freely. In warm seasons, the moisture

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*Pyroligneous acid, is the acid of wood, procured by distillation, in a heated iron retort. One cord of dry wood will produce not less than six barrels of the acid. This must exist in the wood, and unless artificially extracted, must exert a most destructive influence on timber, whenever additional heat and moisture favor.

and dissolved juices of the wood, change to a very weak acid, and then the putrefactive fermentation follows. The process of destruction commences within, and gradually approaches the surface. We hence find bridge timbers and others sound on the surface, while the centre is entirely decayed. It is the operation of wet rot that hollows the inside of many large forest trees. It is the effect of the same agent which causes to the public so much expense in the repair of bridges. Many of these structures, from the want of the use of due means, become useless in a few years.

The dry rot arises from the position of timber in close or confined and moist situations, to which a free circulation of air is not or cannot be admitted. As the moisture cannot be carried off by the air, it combines in warm seasons, with the peculiar juices of the wood, forming a weak acid, and producing the putrefactive process. It makes its attack upon the surface, and penetrates to the centre. It is this kind of rot which so often renders oak joists wholly useless in large and expensive buildings, in a few years, and which makes it necessary, in a short time, to repair the internal timber of ships and steamboats.

Remedies for Wet and Dry Rot. It seems to me that all that is required with good timber, in exposed situations, is so to divide it, that the air in motion can carry off the surplus moisture or water. I would recommend in the building of bridges, &c. not to use large or massy beams, but, plank from two to three inches thick. Let these be judiciously pinned with large wooden pins, or what is better, bolted with suitable iron bolts, leaving the plank about one fourth of an inch asunder. If the beams are formed in the above manner, they will be stronger than if formed of a solid mass, and equally prepared to receive a mortice and to drain off water, and at the same time, admit a free circulation of air. Thus the wood would be kept dry, and there would be no tendency to the formation of the putrefactive fermentation, except perhaps, at the point of pinning or bolting. If these points, however, are carefully pitched, every precaution is taken to secure the wood. Bridges constructed in this manner out of the beach or sugar tree, will last longer than those of oak, on the present improper plan of building.

To prevent the dry rot, the beams ought to be constructed of plank in the same mode as I have already described; and as far as practicable, openings made for the free passage of the air. Thus in putting down the joists of floors, near the ground, great care should be taken to allow a free circulation of the atmospheric medium, so that all moisture could be carried off; and provided the joists be situated about a foot above the

ground, the tendency to decay will be greatly prevented. Those who are not acquainted with this subject, would be surprised, on investigation, at the amount of moisture in dry wood, and would be satisfied that without scientific precautions, those, whether public bodies or private individuals, who engage in expensive and large building undertakings, will sustain ultimately serious loss.

In the construction of our rail roads, wooden sills are employed instead of stone. These, unless the precaution of dividing, charring and steeping be attended to, will, in a very short time, be required to be laid anew. If the sills of oak, locust and pitch-pine be prepared as above described, their durability, if carefully laid in stone, will be such as to ensure their use for ages.

Some of these remarks have been laid before the public through our journals, but they are here extended. I am persuaded, the subject is worthy the deep investigation of engineers, and would urge it upon the attention of all young men who are preparing themselves for that profession. I have made it a particular subject of my remarks to an engineering class, which at present, engages part of my time, and would be glad to see it occupy more of the attention of those who are engaging in the business.

PESTALOZZI.

It is now, says Biber, about twenty-five years since Pestalozzi's name first reached this country; but the interest which it has excited, is to be attributed to the general feeling of the necessity of improving the state of education here, rather than to any clear knowledge on the part of the public, as to the nature of Pestalozzi's principles and of his method. It would be an endless task to recount, and an hopeless one to refute all the erroneous and absurd notions which are afloat on this subject; nor can the public be held responsible for the mistakes and prejudices into which they have fallen, since the only sources of information accessible to them, were a few meager accounts, most of them drawn up by persons but superficially acquainted with Pestalozzi's views. To this must be added, that having for their object to gain the attention of some particular party or other to the subject, they modified the ideas which they had set forth, so as to render them palatable to the intended readers, and as a necessary conse-

quence, the features of the original were proportionately distorted.

It was owing to perverted views of Pestalozzi's mode, that, in England and in the United States, men wise in their own conceits, took upon themselves the task of bringing into operation his system, and predicating upon it, books for the use of scholars, which have been denominated inductive, productive and interrogative. They imagined, they had communited the spirit of Pestalozzi, when they had formed books, with a set of printed questions at the bottom of the pages, and children had learned to repeat by vote these questions. But nothing is farther removed from the generally philosophic views of Pestalozzi. Such, however, must always be the case, when men unacquainted with the operations of the human mind, and who have not learned by experience, the management of intellect, undertake to give directions. It is for this reason, that we greatly regret to see so many at work, at the present day, with no other knowledge than that of the use of the scissors and a scrap book, entering the field of writing books for the instruction of youth.

We intend, from time to time, to present the views of Pestalozzi in a series of numbers, as given by E. Biber, who has furnished the public with a most interesting account of the Swiss philosopher.

The first extract we give, relates to what in this country, has been called the *inductive* or *productive method*, and, the second, the letter of Buss on the necessity of studying the elements of any science. They contain hints of great importance to every teacher who desires eminence in his profession.

"The new reading-book," says Pestalozzi, "that had been introduced by the pastor, contained religious truths in short paragraphs, and in biblical sentences: various facts of physical science, natural history and geography, were concisely stated, and information was given on interesting points of the political constitution of the country. Kreusi, observed his pastor, when he read it with the children, putting some questions at the end of each paragraph, in order to see whether they actually understood what they read. Kreusi tried to do the same thing, and succeeded in making most of his scholars perfectly familiar with the contents of the reading-book. Butthis was only because he adapted his questions to the *answers* which were to be found, *ready made*, in the *book*, and because he neither *demanded* nor *expected any other answers, except literally those which the book had put into the childrens' mouths, long before any question was devised to elicit them.* The true reason of his success was, that there was a *complete absence of all mental*

exercise in this his *system of catechisation.* "It is, however, to be observed, that that mode of instruction which originally was termed catechisation, is no more than Kreusi's system of questioning, an exercise of mind; it is a mere analysis of words, relieving the child, as far as words are concerned, from the confusion of a whole sentence, the different parts of which are presented to the mind separately and distinctly; and it can, therefore, only have merit when used as a preparatory step towards the further exercise of clearing up the ideas represented by those words. This latter exercise, commonly termed Socratic instruction, has only of late been mixed up with the business of catechizing, which was originally confined to religious subjects exclusively.

The children thus catechised by Kreusi were held up by the pastor as examples to his elder catechumens. Afterwards it was required of Kreusi, that he should, after the *fashion of the times*, combine this narrow analysis of words, called catechising, with the Socratic manner, which takes up the subject in a higher degree. But an uncultivated and superficial mind does not dive into those depths from which Socrates derived spirit and truth; and it was, therefore, quite natural in his new system of questioning, Kreusi should not succeed. He had no internal basis for his questions, nor had the children any for their answers. They had no language for things which they knew not, and no books which furnished them with a well framed answer to every question, *whether they understood it or not.*

Kreusi had not yet learned, that mere catechising, especially if it runs upon abstract terms, leads to no more than the art of separating words, and handling analytic forms; but, that in itself, it is nothing but a parrot like repetition of sounds without understanding: nor, was he aware, that *Socratic questions* are *not* to be addressed to *children*, such as his pupils at Gais, who were equally destitute of the internal fund, that is of real knowledge—and of the external means, that is, of language wherein to convey that knowledge."

Every philosophic teacher will see the force of these remarks, as well as of those which follow:

"On my introduction to Pestalozzi, says Buss, I cannot describe the feelings I had at our first interview. There was something so great, that I viewed him with astonishment and veneration. His benevolence, the cordial reception he gave to me, a perfect stranger, his unpretending simplicity, impressed me most powerfully. No man ever so fully won my confidence.

The following morning I entered his school, and at first, I confess, I saw in it nothing to admire. But I had heard Ziem-

sen express himself the day before with great warmth, concerning Pestalozzi's plan; my attention was excited, and, conquering in myself the first impression, I endeavored to watch things more closely. It was not long before I discovered some of the advantages of his method. At first, I thought the children were detained too long at one point; but I was soon reconciled to this, when I saw the perfection which they attained in their first exercises, and the advantages which ensued to them in their further progress. I now perceived, for the first time, the disadvantages under which I myself had labored, in consequence of the incoherent and desultory manner in which I had been taught in my boyhood, and I began to think that if I had been kept to the first elements with similar perseverance, I should have been able afterwards to help myself.

This notion of mine perfectly agrees with Pestalozzi's principle, that by his method men are to be enabled to help themselves, since there is no one, as he says, in God's wide world, that is willing or able to help them. I shuddered when I heard this expression. But, alas, the experience of my life has taught me, that unless a man be able to help himself, there is, actually, no one in God's wide world, able or willing to help him. I now saw quite clearly that my inability to pursue the plan of my younger years in an independent manner, arose from the *superficiality* with which I had been taught, and which had prevented me from attaining that degree of intrinsic power of which I stood in need. I had learned an art, but I was ignorant of the basis on which it rested; and now that I was called upon to apply it, in the manner consistent with nature, I found myself utterly at a loss to know what that nature was. With all the attention and zeal I brought to the subject, I could not understand the peculiar views which Pestalozzi took of drawing, and I could not at all make out his meaning, when he told me, that lines, angles and curves were the bases of drawing. By way of explanation he added, that in this, as in all other matters, the human mind must be led from indistinct *intuition* to clear ideas. But I had no idea whatever, how this was to be done by drawing. He said, it must be done by dividing the square and the curve, by distinguishing their simple elements, and comparing them with each other. I now tried to find out what their *simple elements* were, but I knew not how to get at simple elements, and in endeavoring to reach them, I drew an endless variety of figures, which, it is true, might be called simple, in a certain degree, but which were utterly unfit, nevertheless, to illustrate the elementary laws which Pestalozzi was in search of. Unfortunately he was himself no proficient either in writing or

drawing; though, in a manner to me inconceivable, he carried his children pretty far in both these attainments. In short, months passed away, before I understood what was to be done with the elementary lines which he put down for me. At last, I began to suspect, that I ought to know less than I did know, or that, at least, I must throw my knowledge, as it were, overboard, in order to descend to those simple elements by which I saw him produce such powerful, and to me, unattainable effects. My difficulties were immense. But the constant observation of the progress which his pupils made in dwelling perseveringly on his "elements," brought my mind, at last, to maturity on that point; and, abandoning my preconceived notions of the subject, I endeavored to view all things in the light of those same elements; till, at last, having reached the point of simplicity, I perceived its full bearing upon the development of the mind. I had not known before, that the act of drawing consisted of mere lines.

"Whatever my eyes glanced upon from that moment, I saw between lines which determined its outline. Hitherto, I had never separated the outline from the object, in my imagination; now, I perceived the outline invariably as distinct from the object, as a measurable form, the slightest deviation from which I could easily ascertain: But I now fell into another extreme. Before, I had seen nothing but objects; now I saw nothing but lines; and I imagined that children must be exercised on these lines exclusively, in every branch of drawing, before real objects were to be placed before them for imitation, or even for comparison. But Pestalozzi viewed his drawing lessons in connexion with the whole of his method, and with nature, who will not allow any branch of art to remain isolated in the human mind. His intention was, from the beginning, to lay before the child two distinct series of figures, of which one should be contained in his book, and the other should furnish practical illustrations for a course of lessons on abstract forms. The first were intended to form, as it were, a supplement to nature, in giving children an intuitive knowledge of things and their names. The second was calculated to combine the practical application of art with the theoretical knowledge of its laws, by connecting the perception of abstract forms with an intuitive examination of objects that fitted into those forms. In this manner he meant to bring nature and art to bear upon each other, so that, as soon as the children were able to draw a line, or figure, a real object should be present to them, so exactly corresponding as to render their imitation a mere repetition of the same exercise which they had before performed in the abstract.

"I was afraid lest, by giving the child real objects, his per-

ception of the outline should be disturbed, but Pestalozzi did not wish to cultivate any power against nature, and said concerning the subject: "Nature gives no lines, but only objects to the child; the lines must be given to the child, that he may view the objects correctly; but to take the objects from him, in order to make him see lines only, would be exceedingly wrong." And, upon another occasion, when speaking of the danger of throwing away nature for the sake of the lines, he exclaimed, "God forbid, that for the sake of these lines, or for the sake even of the whole art of drawing, I should separate my pupils from the intuition of nature, and harden their minds against it, as the priests of idolatry do by their superstitious doctrines."

"I saw, at last, what he meant, and then I found that the plan of the two books before mentioned, was in exact conformity with nature, and called in the assistance of art with a view to render the impressions of nature upon the child's mind subservient to the development of his faculties.

"But there was another difficulty in which I had entangled myself. Pestalozzi told me, that children must learn to read those lines like so many words, by denominating their different parts, the lines, angles, and curves, with different letters, so that their combinations may be as easily expressed in language, and put down in writing, as any other word, by the composition of its letters. But I could not see how this could be done; I had neither the power of expressing myself clearly on the subject, nor the capacity of understanding the expressions of others.

"To remedy the defect under which I labored, is, however, one of the most essential objects of Pestalozzi's method, which connects language throughout with the knowledge gained from nature by the assistance of art, and supplies the pupil at every stage of instruction with appropriate expressions for what he has learned.

"It was an observation which we all of us made upon ourselves, that we were unable to give a distinct and accurate account, even of those things of which we had a clear and comprehensive idea. Pestalozzi himself, when explaining his views on education, had great difficulties in finding always the precise term which would convey his meaning. It was this want of precise language, in fact, which caused me to remain so long in the dark concerning the nature of my task, and prevented me from perceiving what Pestalozzi's views were on that subject.

"After I had overcome all these difficulties, my progress was rapid, and I felt more every day, the advantages of his method. I saw how much may be done by precision and clear-

ness of language on the subject of instruction, whether it be of nature or of art, to assist the mind in forming a correct notion of forms and their proportions, and in distinguishing them clearly from each other; and I could not, therefore, but be aware of the paramount importance of enlightened and careful instruction in the signs which language supplies for the designation of things, their properties, relations, and distinctions. Experience confirmed the conjecture which I had formed, that children taught upon this method would make more accurate distinctions, than even men, accustomed from early life, to measuring and drawing; and the progress which many of our children made, was, beyond comparison, greater than that which is commonly obtained in schools.

"It is true, I saw the whole of Pestalozzi's method only through the medium, as it were, of my peculiar branch of instruction, and judged of its value by the effects which it produced in particular application to my art. But my anxiety to enter fully into the spirit of it, led me, in spite of that limitation, by degrees to investigate the bearing which it had upon other branches; and, at last, assisted by the practical illustrations which drawing afforded me, I succeeded in comprehending Pestalozzi's views on language and arithmetic. I saw that, as it was possible to proceed from lines to angles, from angles to figures, and from figures to objects, in the art of drawing, so it must likewise be possible, in language, to proceed by degrees from sounds to words, and from words to sentences, and thereby to lead the child to equal clearness on that subject. As regards arithmetic, I was laboring under the same error as before, with reference to the outline, so did I view numbers without a clear notion of the real value or contents of each. Now, on the contrary, I acquired a distinct and intuitive idea of the extent of each number, and I perceived, at the same time, the progress which the children made in this branch of instruction. At length, it seemed to me a point of essential importance, that the knowledge and practice of the *elements* of every art should be founded upon *number*, *form* and *language*. This led me to understand the difficulties with which I had so long been struggling in my own department. I saw how I had stuck fast, from want of clearness in language, and how I was impeded by a confused idea of number. It seemed very obvious that the child cannot imagine, with any degree of precision, the division of any figure into its component parts, unless he have a clear idea of the number of those parts; that, for instance, if he is in the dark as to the extent of the number four, he must be equally in the dark on the division of any figure into four parts.

"I felt my own mind daily clearing up; I saw that what I had attained, had in itself a power, as it were, to carry me farther and farther, and applying the experience to the child, I came to the conviction, that the effect of Pestalozzi's method is, to render every individual intellectually independent, by awakening and strengthening in him the power of advancing by himself in every branch of knowledge. It seemed like a great wheel, which, if once set going, would continue to turn round of itself. Nor did it appear so to me only. Hundreds came, and saw, and said; It cannot fail. "Why, said many of the visitants, that's what we can do ourselves at home with our children!" And they were right. The whole of the method is simply nature's method, and is mere play for any one who has laid hold of the *first elements*, and has followed its progress sufficiently to be secured against the danger of straying into those circuitous paths which lead man away from the foundation of nature, on which alone all his knowledge and art can securely rest, and from which he cannot depart without entangling himself in endless and inextricable difficulties. Nature herself demands nothing of us, but what is easy, provided we seek it in the right way, and under proper guidance.

"One word more, and I have done. My acquaintance with Pestalozzi's method has in a great measure restored to me the cheerfulness and energy of my younger days, and has re-kindled in my bosom those hopes of improvement for myself and species, which I had for a long time esteemed as vain dreams, and cast away, in opposition to the voice of my own heart."

We have inserted these extracts as containing sound advice, and not as an evidence, that we enter into all the views of Pestalozzi. That he had many and correct ideas in relation to the operations of the human mind, is allowed; but that his own mind was of that capacious mould, which his servile followers would endeavor to show, is, by no means, so certain. He was too wise not to know, that mere question and answer was not an efficient means of developing the intellectual faculties; and this he learned like every other observing man, by actual teaching. But even the philosophic views he did possess, are not generally understood; and hence have sprung numerous deceptions in teaching and book-making. On these points, we shall have occasion to speak hereafter. We close this article with Pestalozzi's remark, "that children when taught any thing, should be taught at the same time to understand what they are about; in other words, to arm themselves with two powers, the mechanical and the intellectual one;—a sure foundation for accuracy of observation as well as precision of ideas."

LITERARY NOTICES.

WESTERN MONTHLY MAGAZINE AND LITERARY JOURNAL, Edited by WILLIAM D. GALLAGHER AND JAMES B. MARSHALL, Louisville.

The first number of the new series of this interesting periodical is before us. It is replete with good articles. The united talents of MESSRS. GALLAGHER AND MARSHALL, cannot fail to furnish a work of high merit. There are few individuals more adequate to the editorial office, than those gentlemen; and if their labors do not receive reward, we know not whose, in our western valley, will. The work possesses qualities which we would be glad to see mark every publication; we mean, that its pages are not marred by productions calculated to corrupt purity of principle, or injure taste. Its critical notices are just and liberal, breathing nothing of the malignant or personal feeling which characterises too many of what are designated reviews. We heartily commend the spirit of the number, and, cannot doubt that MR. GALLAGHER's fine talents will receive strong support from his new ally, Mr. Marshall.

NEW YORK QUARTERLY MAGAZINE. HOWE AND BATES. 1837.

We have received the first and second numbers of the above work, which is under the editorial care of Messrs. McClay, Elligott and Weed. The primary object of the publication, is the dissemination of sound and virtuous principles, and the promotion of useful knowledge. To the spirit of this introductory remark, the editors have strictly adhered. The work contains some fine specimens of composition, and what, in our view, is of still greater importance, sentiments which must exercise a healthy influence on society. We wish there were more works of the cast of the Quarterly and Gallagher's Journal. It is decidedly a periodical of merit. The critical notices in general, are short and well written. Some one or two, however, we do not approve. They are neither liberal nor correct. We refer to the sweeping condemnation of "*East* and *West*" by FREDERIC W. THOMAS. We do not say that the work is faultless, but we do say, that the reviewers have not given it just praise. Mr. Thomas possesses fine talents,

and is an accurate observer and delineator of human character. With these requisites, we see nothing to prevent Mr. Thomas from ranking high on the list of American writers, and receiving, among the rest, the praise he has so far in his literary career justly merited.

The mechanical execution of the Quarterly is in a high style of elegence.

THE ENGINEER'S PRACTICAL ELEMENTS, containing Surveying, Draughting, Geodesic operations, &c. on the basis of LACROIX. Philadelphia. HOGAN & THOMPSON. 1836.

This work was placed in our hands for critical perusal. The author, whoever he may be, starts with the declaration, so common in these days, that to diffuse a science and to inspire a taste for its cultivation, it is necessary to divest it, as far as possible, of all discouraging obstacles, by explaining its difficulties, by pointing out minutely its progressive deductions, and by laying open the peculiarity of the elements which contribute to its constitution. All this is well enough; but we are apprehensive, that, little solid is yielded to students who devote their time to the perusal, (for it cannot be called study,) of merely explanatory elementary works of dry details, instead of directing their minds to the acquisitions of principles flowing out of the sciences on which civil engineering is built. We do not wish to see the story telling system of Parley, applied to scientific studies.

The work, if viewed in its proper light, that of a syllabus of mere mechanical operations and directions, may answer some purpose in aiding those, now actually engaged in engineering, who have entered upon their duties without preparation; but, we cannot see, that the least utility will arise to those who are desirous of becoming thorough engineers, and are wisely laying the foundation of their subsequent skill in mathematical science. The truth is, that works of this kind are frequently compiled to suit the spirit of the times, and often are the means of leading persons to undertake the labors of the scientific workman, while they are totally unprepared. The civil engineer is not to be manufactured in a week, or, by the projection of a few squares, trapezoids or triangles. We would say to those who intend making engineering a profession, lay your foundation in Geometry and Algebra; go to the original and scientific authors themselves, from whom compilers draw their materials; prosecute with ardor not only those branches, but other departments of science which come within the sphere of that profession; and lastly, if pecuniary means allow, pla c yourselves under the care of some thorough and practical engineer.

A New and compendious Latin Grammar, With appropriate Exercises, Analytical and Synthetical, for the use of Primary Schools, Academies and Colleges. By Baynard R. Hall, A. M. Principal of the Bedford Classical and Mathematical Academy, and formerly Professor of the Ancient Languages in the College of Indiana.

The Latin language is easy of acquisition; it presents but few anomalies. It is possessed of an aristocratical *formalism* and polish; symbolical of the imperial and usurping mind of Rome. It is not that popular, idiomatic, flexible speech, which the Greek mind has *cast* for us;—for this reason it is easy of acquisition. Still every language presents idiomatical difficulties, and we ought to be thankful for the patient and benevolent industry of those worthy men, who undertake to improve our Elementary Grammars.

This work by Mr. Hall, shows many improvements; particularly in its Syntax and order of exercises. His chapter on *idiom* is very valuable. It has been his object to produce, not an *easy*, but a *good* Grammar. This is not a temporary construction,—a short cut,—but a *Roman road*, which he has laid for us. We have neither room in this number, nor time, to enter into a minute examination of its merits. Among the several good Grammars before the public, this work will recommend itself very strongly by its excellent plan and distinctness, to the adoption of many teachers. To such as have little experience in the art of teaching the language, we warmly recommend it, not only for the advantages of the methods it presents, but also for that spirit of uncompromising accuracy, particularly in regard to pronunciation (in which, in the west, we are sadly deficient) which it uniformly inculcates. We trust we shall be able to prepare an article on the subject of Latin Grammar in a short time, in which we shall advert to several points in this work and others.

Reviews.—The labors of reviewers, at the present day, are almost wholly confined to recent works. We claim exemption from the custom. The date of publication is not our guide. Our object is to advance science and education. If a work have merit, we shall endeavor to add to its circulation; if it have none and is obscure, it will be unnecessary to speak of it; and if, as it frequently happens, a book having *no merit* has obtained notoriety by puffs and mercenary means, we shall feel it a sacred duty to lay bare to the public eye, its character. Works of the latter description are to be found in every part of our union. They demand a rigid examination, as they enter into and form a part of the system of public instruction.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JANUARY, 1837, TAKEN AT WOODWARD COLLEGE, CINCINNATI—BY JOSEPH RAY. M. D.

Jan. 1837	Thermometer. min	max	m tp	Barom mn. ht inches	Course wind AM	PM	charac'r wind		rain& snow	charac'r weather	miscellany
1	22.0	34.0	25.2	28.899	NW	NW	str.	wd	.05	cloudy	
2	7.0	18.0	12.7	29.053	NW	NW	"	"		variable	
3	5.0	18.0	14.3	28.923	NW	NW	"	"		clear	
4	15.0	32.0	21.7	28.740	NW	NW	lt.	wd		variable	
5	15.0	28.0	23.7	29.090	W	W	"	"		variable	
● 6	23.0	31.0	28.7	29.403	W	W	"	"		cloudy	
7	28.0	33.0	29.3	29.427	NW	NW	"	"		cloudy	
8	25.0	37.0	30.8	29.313	NW	NW	lt.	bre		variable	
9	28.0	35.0	33.3	28.943	E	E	"	"	.04	cloudy	light snow
10	33.0	40.0	34.7	29.103	NE	NW	str.	bre		cloudy	
11	29.0	35.0	29.5	29.497	W	W	"	"		cloudy	
12	17.0	28.0	23.0	29.553	W	W	"	"		variable	
◐ 13	21.0	28.0	24.3	29.337	S	NE	"	"	.49	cloudy	rainy day
14	24.0	30.0	25.5	29.290	N	NW	lt.	bre	.04	cloudy	
15	22.0	28.0	23.5	29.413	W	W	"	"		cloudy	
16	15.0	40.0	27.3	29.183	W	W	"	"		clear	
17	17.0	44.0	35.8	29.033	W	SW	"	"		fair	
18	35.0	43.0	39.0	28.930	SW	SW	"	"		cloudy	
19	37.0	46.0	39.5	28.999	SE	SE	"	"		variable	
20	36.0	39.0	36.7	28.940	W	W	str.	bre	.05	cloudy	drizzly
○ 21	31.0	34.0	31.3	28.970	NW	NW	str.	wd		cloudy	
22	25.0	37.0	29.2	29.237	NW	NW	lt.	bre		clear	
23	27.0	44.0	34.7	29.237	W	W	"	"		cloudy	
24	24.0	31.0	24.7	29.366	W	W	"	"		cloudy	
25	13.0	33.0	26.8	29.370	W	W	"	"		fair	
26	24.0	43.0	30.8	29.266	W	W	"	"	.13	cloudy	snow 2 in.
27	23.0	43.0	32.1	29.073	SW	W	str.	wd		variable	
28	24.0	46.0	36.3	29.220	SW	SW	lt.	bre		clear	
◑ 29	30.0	53.0	39.8	29.073	S	S	"	"		clear	
30	35.0	51.0	43.0	28.983	S	S	"	"		variable	
31	41.0	51.0	46.1	29.000	SE	SE	str.	wd		variable	

Mean temperature of the air (Fahrenheit's scale) 30°.1
Maximum height of thermometer 53°
Minimum height of thermometer 5°
Range of thermometer 48
Warmest day, Jan. 31st.
Coldest day, Jan. 2nd.
Mean height of barometer, (English inches,) 29.1569
Maximum height of barometer, 29.56
Minimum height of barometer, 28.66
Range of barometer, .90
Perpendicular depth of rain and melted snow, (English inch.) 0.8

Direction of Wind. N. ½ day—N. E. 1 day—E. 1 day—S. E. 2 days—S. 2½ days—S. W. 3 days—W. 12 days—N. W. 9 days.

Weather. Clear and fair 7 days—variable 9 days—*cloudy 15 days.*

The mean temperature of this month was ½ a degree less than that of January 1836. Navigation of the Ohio River and Miami Canal impeded during the whole month.